

Fruit



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Fruit We enjoy eating various fruits all year round. Our senses tell us that they come in sweet and sour flavors and we have come to recognize those as part of a fruit's identity. However, we have not given much thought as to how and why these fruits become sweet or sour to our taste buds. This paper is meant to take a depth look at what causes the different flavors in fruits and other related topics. I shall delve deeper into the benefits of fruit ripening in terms of seed dispersal, have a look at the ways that human consumption of food and grains affect seed dispersal, and finally, discover whether seeds use fructose or starch in the fruits for its metabolism. Sit tight, this is going to be one intellectually enlightening experience.

According to Rakesh Mohan Hallen (“Taste and Smell”) the chemical composition of fruits dictate the flavor that we taste within it. He further explains that: “During the process of the ripening of a fruit or roasting or frying a papad the chemical substances present in them undergo some chemical changes, which transform the structure of some of the molecules that elicit a particular taste.” (Allen, Rakesh, Mohan, “Taste and Smell”). This would mean that the level of fructose, glucose, acid, and citric acid within fruits dictate the final sweetness or sourness of the ripened fruit (Mawuli, 2011).

Seed dispersal is actually an interesting topic of which very little is known. What we do know however, is that the ripening of a fruit helps in seed dispersal because the seed pods of over ripened fruits tend to burst open thus scattering the seeds into the wind for depositing over vast land areas. Humans have also helped in propagating seed dispersal because of our tendency to carry fruit trees and plants that we consider decorative when we migrate from one place to another thus allowing for the spread of fruit and

vegetable crops throughout various territories. (Hodag, 2011). However, considering that human beings tend to create fecal matter that is not deposited back into the soil but rather in sewer systems and landfills, human beings tend to disrupt the balance when it comes to seed dispersal because the seeds do not get back into the soil as a fertilizer as it would normally do when consumed by wild animals and the like.

Now as we all know, polysaccharides, also known as starch, is a molecule that is not easily digested in its original form. It must be broken down into simpler forms such as fructose, which is a monosaccharide, in order to metabolize it. In fruits, these starches and fructose are also broken down into much simpler forms in order to aid in the germination and other processes that fruits need to undergo prior to ripening.

Fruits are known to germinate seeds via aerobic respiration (McDonald, n. d.). This means that the seeds will obtain its energy from the food reserves of the mother plant. That mother plant usually has sucrose or fructose in it, normally in the form of a starchy substance. It is this starch like substance within the plant that is then broken down by the plant or fruit metabolism in order to create sucrose or fructose for additional energy. Even oils within the fruits can manage to store up energy reserves that can be used for the metabolism breakdown of the fruit. These carbon reserves use a process known as gluconeogenesis in order to transform stored fats into an acceptable form of sucrose or Fructose for use in glycolysis. (Arnold & Sanchez, 2004). These sugars also help in propagating the seed dispersal as the smell of fructose attracts creatures and insects to eat the plant or fruit. In the end, the ripening and seed dispersal process is still a far intricate and complicated process that cannot be easily covered in a limited page

requirement essay. But the information I have delivered above will make for a good start to understanding what goes on when a fruit ripens.

Sources

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