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Unit 2 Topic 3

Coffee fermentation

Coffee Fermentation

The coffee beans covered in the slippery mucilage can be sent to the patios to dry as pulped natural coffees or can be sent to coffee fermentation tanks. The coffee fermentation tanks are used to remove the mucilage before drying. The pulped coffee beans are put into cement tanks with water and are allowed to ferment for 16-36 hours. On the way to the fermentation tanks, another density separation can occur. The highest quality coffees are the densest and should be separated and fermented in a different tank.

The coffee fermentation time depends on a number of factors including the amount of coffee fermenting, water temperature, and humidity. The mucilage is made up of pectin materials including protopectin (33%), reducing sugars including glucose and fructose (30%), non-reducing sugars such as sucrose (20%), and cellulose and ash (17%) (Wrigley, 455). Protopectin is not water soluble and will hydrolyze to pectinic acid in the fermentation tanks (Wrigley, 455). Hydrolysis of the protopectin and degradation of the pectin by enzymes is the process that occurs to remove the mucilage during fermentation (Wrigley, 455). Currently, the best way of determining the end of coffee fermentation is to feel the coffee beans to determine if they are still encased in mucilage. If the coffee beans are fermented for 36-72 hours, stinker beans develop. Lactic, acetic, and propionic acids are produced in this process and are believed to prevent the traditional fermentation taste by inhibiting mold growth that regularly occurs during drying on a patio in humid conditions (Wrigley).