

Harvesting and Processing Coffee

Coffee is a fruit cultivated in countries situated between the Tropic of Cancer and the tropic of Capricorn. Two botanical species are commercially produced for consumption; Arabica and robusta. While there are other botanical species (arabusta, liberica, etc) the small amount produced and relative quality makes them insignificant to the industry. Coffee trees require 5 years to reach maturity, and even then, will only produce the equivalent of one to two roasted pounds of coffee per year. With total global production running at around 100 million, 132-pound bags per year; it is easy to see why coffee is the second largest traded commodity, after petroleum. (Using the above information, the total number of producing trees is around 11.1 billion).

The fruit of the coffee tree is called a cherry, which contains two hemispherical seeds (coffee cherries that contain only one seed are referred to as “peaberry”). These seeds are the actual coffee beans which are removed from the fruit, preferably at the peak stage of ripeness which commonly is when the coffee cherry turns from green to red. In most producing countries, there is one harvest per year. Some countries, like Colombia, will have their principal harvest and a secondary harvest. Due to the mountainous topography of most coffee growing regions, harvesting is done by hand where it is impossible to get equipment in. Brazil is the notable exception where the relatively flat terrain allows for mechanized harvesting equipment to be used. Harvesting is accomplished in one of two ways; strip picking and selective picking. Strip picking, as the name implies, means that all cherries on a branch are stripped from the tree either by hand or through mechanical means where possible. Selective picking is done only by hand and involves the pickers choosing only ripe red fruit. This method is much more difficult as pickers need to visit the same tree for a period of 8 or more days to harvest all the fruit. The advantage is in the quality of the coffee harvested as the cherries were allowed to ripen on the tree to full maturity before harvesting.

Once the coffee cherries have been picked, they are processed in one of two ways; the wet method (commonly referred to as the washed method) or the dry method (commonly referred to as the natural method). The wet or washed coffee method produces a superior bean yielding better acidity in the brewed coffee, fewer defects and a cleaner finish. The wet method involves the harvested cherries going through a de-pulping mill soon after picking which separates the coffee fruit from the seeds (coffee beans) and then immersing them in moving water through sluice ways which washes the coffee of mucilage and remaining fruit. Once the coffee beans have been washed they are partially kiln dried in large rotating dryers (similar in look to clothes dryers but much larger in scale) and then completely sun dried on terraces. Some plantations will only sun dry the coffee if small enough while larger plantations or processing stations will need to use kilns to speed up the process.

The dry or natural method uses far fewer resources to process the coffee beans. The harvested cherries are allowed to dry with the fruit on the beans on terraces or on waist high netting to ensure even drying. Once the cherries have been brought to the desired

moisture level (usually several weeks later) they are sent off to be hulled in large milling machines which will remove all the remaining dried fruit. At this point, the green coffee beans will go through further triage to grade them according to size and to remove as many defects as possible. Most Arabica coffee harvested in Brazil is processed using the dry method as well as most Robusta coffee regardless of where it is grown. Regions where there is much rainfall are impractical for coffee to be processed using the dry method.