

## Transcript The Life Cycle of a Cup of Coffee

How many people does it take to make a cup of coffee? For many of us, all it takes is a short walk and a quick pour. But this simple staple is the result of a globe-spanning process whose cost and complexity are far greater than you might imagine.

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It begins in a place like the remote Colombian town of Pitalito. Here, family farms have clear cut local forests to make room for neat rows of *Coffea* trees. These shrub-like plants were first domesticated in Ethiopia and are now cultivated throughout equatorial regions. Each shrub is filled with small berries called "coffee cherries." Since fruits on the same branch can ripen at different times, they're best picked by hand, but each farm has its own method for processing the fruit. In Pitalito, harvesters toil from dawn to dusk at high altitudes, often picking over 25 kilograms per shift for very low wages.

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The workers deliver their picked cherries to the wet mill. This machine separates the seeds from the fruit, and then sorts them by density. The heaviest, most flavorful seeds sink to the bottom of the mill, where they're collected and taken to ferment in a tub of water for one or two days. Then, workers wash off the remaining fruit and put the seeds out to dry. Some farms use machines for this process, but in Pitalito, seeds are spread onto large mesh racks. Over the next three weeks, workers rake the seeds regularly to ensure they dry evenly. Once the coffee beans are dry, a truck takes them to a nearby mill with several specialized machines. An air blower re-sorts the seeds by density, an assortment of sieves filter them by size, and an optical scanner sorts by color.

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At this point, professionals called Q-graders select samples of beans to roast and brew. In a process called "cupping," they evaluate the coffee's taste, aroma, and mouthfeel to determine its quality. These experts give the beans a grade, and get them ready to ship. Workers load burlap sacks containing up to 70 kilograms of dried and sorted coffee beans onto steel shipping containers, each able to carry up to 21 metric tons of coffee.

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From tropical ports, cargo ships crewed by over 25 people transport coffee around the world. But no country imports more coffee than the United States, with New York City alone consuming millions of cups every day. After the long journey from Colombia to New Jersey, our coffee beans pass through customs. Once dockworkers unload the container, a fleet of eighteen-wheelers transport the coffee to a nearby warehouse, and then to a roastery. Here the beans go into a roasting machine, stirred by a metallic arm and heated by a gas-powered fire. Nearby sensors monitor the coffee's moisture level, chemical stability, and temperature, while trained coffee engineers manually adjust these levels throughout the twelve-minute roasting cycle. This process releases oil within the seed, transforming the seeds into grindable, brewable beans with a dark brown color and rich aroma. After roasting, workers pack the beans into five-pound bags, which a fleet of vans deliver to cafes and stores across the city.

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The coffee is now so close you can smell it, but it needs more help for the final stretch. Each coffee company has a head buyer who carefully selects beans from all over the world. Logistics teams manage bean delivery routes, and brave baristas across the city serve this caffeinated elixir to scores of hurried customers.

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