Coffee Ninja Barista Manual
the complete crop to cup visual guide for specialty espresso coffee

Steve Jackson
Intro

Hello Ninja!

Yes you! You are the coffee ninja. You may not feel like it yet but this book will give you the tools and knowledge to get there. This is a visual barista guide which presents coffee by using some of the latest computer software.

Coffee is very extensive and can be very intimidating from the beginning. But like with cooking, there are ingredients, recipes, equipment and methods in place to make things easy. Here we have simplified coffee and everything involved in a barista’s day. The knowledge in this book will give you the ammunition to get that job, to build your skills or make you the barista you aspire to be.

Regardless of how you feel, if you’re standing behind a coffee machine, you are the expert. A customer will not doubt you until they are given reason to do so. Extracts of knowledge and skill from this book will increase your status in the mind of the consumer. The first few chapters are about giving you some background on coffee and how it gets from crop to cup. We then go through the espresso menu, barista tools and, of course, the coffee making process. We analyse grind, milk texturing, latte art and even explore some amazing facts about coffee to blow peoples minds.

Most coffee companies have a training manual but they are never shared unless their coffee is being represented. This manual is not only available to any aspiring barista, but will also give you a collection of experience across different coffee companies to give you a broad perspective of coffee and the industry.

In addition to the content in this book, you will gain access to extra printable charts and guides for you to keep and implement in your workplace. This will also include editable versions so you can have an input on how you can get the most out of your coffee.
Hi. My name is Steve Jackson. In my career thus far I have worked as a head barista, café manager, coffee rep, barista trainer and coffee machine technician. As such, I have seen almost every coffee-related scenario. Over the years, I noticed that coffee can be a very grey area in the minds of many people. Almost like Chinese whispers, the story of what is right and wrong is similar, but changes from person to person. There would constantly be questions and myths surrounding coffee, and every company and café would be different. It was no wonder people were often confused and seeking answers on things they had seen or heard. Coffee is so loved as a commodity that it generates such strong opinions on what is good and bad; What is the best and what is the worst.

The problem with that is that coffee is subjective to personal taste. It cannot be compared equally as all we have is our personal taste of what we like and don’t like. The speciality coffee movement has attempted to rate and score coffees but the goal of this book is not to get you a great score. The goal of this book is to make the best possible barista by sharing the knowledge accumulated through real world experiences.

Unlike other versions of manuals from coffee companies or franchises, this one wants to share valuable insight and realities with you. This book is aimed at the individual or workplace that wants to provide the best possible coffee - no matter the type – every single time. No matter where the origin of bean or supplier you rely on, I have attempted to simplify a complicated product into a visually easy to follow guide.

Before my career in coffee, I was an aspiring 3D animator and graphic designer. I have therefore been able to combine my knowledge of coffee with my ability to create visual content. This has culminated in www.CoffeeNinjaTraining.com where you will find even more tips and tools to further your knowledge.

I would like to thank you in advance for reading this book. Please feel free to get in touch with me via my website. I have been on the journey from beginner to teacher and can relate to the uncertainty and confusion of learning to be a good barista. I can’t wait to help you on your journey to becoming a ninja!
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Facts About Coffee

The complete crop to cup visual guide for specialty espresso coffee
History of Coffee

Coffee was discovered over a thousand years ago by goats, according to the widely accepted legend. Around this time in the Highlands of Ethiopia (then known as Abyssinia), a young goat herder named Kaldi believed his goats became inexplicably more active after eating a certain red berry. So he tried some himself and, to his surprise, found that he also was more energetic. He went on to tell several monks nearby and invited them to taste the fruit for themselves.

One variation states that a monk disapproved of the use of them and threw them into the fire. Noticing the aromas from the fire, the monks pulled the roasted berries from the fire. Somewhere along the line, they learned to mill the cooked beans allowing the flavours to be infused with water to make a beverage. Some versions of the tale say the monks received divine intervention or were able to recite their prayers without falling asleep.

The beans themselves, and the drink the monks managed to make with them, was considered a luxurious stimulant; however they had no idea how or why. Coffee began to be cultivated in Yemen and the slow spread of the commodity had begun. In nearby Medina and Mecca, where every year many pilgrims converge, demand increased for coffee. Egypt and North Africa in the 1500s began consuming the drink. Coffee houses then began surfacing in Syria and Istanbul. The plant extracts became popular in the Middle East in the 16th century and from there, spread to Venice, Italy. There it was a heavily charged beverage for the wealthy at Europe’s first coffee house around 1650.

The rest of Europe were soon to enjoy the popular drink. By the time coffee reached England, water wasn’t safe to drink which meant really that only beer, or some kind of fermented alcohol, were on hand. These provided only a depressant affect on the body rather than the stimulating attributes associated with coffee. In the 17th and 18th centuries, coffee houses were named ‘penny universities’ as one could buy a coffee for a penny and learn and discuss all manner of things.

Up until the end of the 17th century, Yemen and Abyssinia were the only countries cultivating coffee. The Dutch began to start cultivating coffee in their colonies in the East Indies and, at the beginning of the 18th century, cultivation spread to the Caribbean, Central America and Brazil. From the middle of the 19th century, coffee became one of the world’s most important trading commodities.
In Italy, the Industrial Revolution was in full swing by late 19th/early 20th century. In the factories, employers noticed the increased productivity in their workers after coffee breaks. However, each coffee would take 5 to 15 minutes to make - and that’s before the workers even have their drink. In 1884, Angelo Moriondo patented an early version of a ‘coffee making device’ which was steam driven. In Milan in 1901, Luigi Bezzera made improvements and patented his own versions. What was then created was the world’s first single serving espresso machine, which could brew a coffee in as little as 30 seconds.

It was basically a big boiler half filled with water which was heated by a flame. As the water reached boiling point, it created steam which in turn created pressure within. The ‘barista’ would then release a valve which allowed the steam pressure to push hot water through a dose of coffee and into a cup. It was discovered very early that the normal coffee grind was too coarse for this format. With this pressure, the hot water rushed through the coffee grounds with no resistance compared to the previous brews. So a finer grind was used to allow a longer coffee to water contact time, or extraction, which produced a more desired flavour. In short, the coffee break was then drastically reduced. The workers got their boost and the employers got their workers for longer. Bezzera still make quality coffee machines today, including the Eagle Dome which is a throwback to the original espresso machine.

In 1938, Gaggia developed a steam-less coffee machine with a high pressure ‘piston mechanism’. The result was a crema in the espresso’s which became the focus of their advertisements. The act of pulling the lever down was where the term ‘pulling shots’ came from. In 1939, La Marzocco patented the first espresso machine with a horizontal boiler. This allowed the ability to have multiple group heads. In 1961, Faema introduced the E61 group head, which is still used in many machines today as standard. More importantly, they also employed an electrical pump which constantly flowed water through a heat exchanger before contacting the coffee in the group head. A heat exchange gets its temperature by travelling through the boiler rather than from the boiler. When boiler water is extracted, it then gets replaced by cold water which the machine needs to work hard to re-heat. The heat exchanger allows the boiler water to remain and then making coffee has little effect on temperature stability. The pump, pushing at a consistent 9 bar (usually) of pressure, allowed for a smooth consistent extraction. Before the introduction of a pump, water pressure through coffee was inconsistent with a varying bar pressure between 4 and 11. The E61 and its process remain in practice and in production still today.

In 1970, La Marzocco patented their first series of dual-boiler machines. These allowed for separate chambers specifically heated to a set temperature to match the desired profile of the coffee. The other is used only for steam to texture milk and to withdraw hot water, which is often used for teas and some espresso beverages. The argument for these dual boilers is that they can maintain a consistent temperature for brewing coffee to a desired profile without fluctuating. A heat exchange will consistently be 88-94 degrees through the group head, where the dual boiler can be set specifically to any preference.
What is Coffee?

So we all know coffee in its final form - a light brown crispy bean which smells awesome in cafes bursting with the freshly ground scent. It is then transformed into a beverage through espresso machines, and expertly put together with milk. But a surprising amount of barista’s don’t know anything about the bean before it arrives to them in a sealed bag.

The Cherry

The bean is actually the seed of a cherry-like fruit which grows from trees from the Rubiaceae family. These trees can reach around 10 to 15 metres in height in the wild, however tend to be pruned for a higher yield and easy picking. There are many types of species of coffee trees but only two dominate cultivation. These are Arabica and Robusta, and the main perceived difference between the two is taste. Robusta has a perception of being stronger and more bitter. It is traditionally used in blends allowing the coffee to punch through milk based beverages without being too washed out. The natural strength makes it viable for instant coffees also. However, Arabica is more popular in specialty coffee with its sweeter varieties and less harsh flavours and considered by many as a better quality bean.

<table>
<thead>
<tr>
<th>Arabica</th>
<th>Vs</th>
<th>Robusta</th>
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<tbody>
<tr>
<td>Oval shaped bean</td>
<td>Rounder shaped bean</td>
<td></td>
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<tr>
<td>Smoother flavours</td>
<td>Harsher flavours</td>
<td></td>
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<tr>
<td>1 % caffeine</td>
<td>2% caffeine</td>
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<tr>
<td>Rainfall 1200-2000mm</td>
<td>Rainfall 2000-3000mm</td>
<td></td>
</tr>
<tr>
<td>Temperature 15-25</td>
<td>Temperature 20-35</td>
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<tr>
<td>Produces Smaller yields</td>
<td>Produces higher yields</td>
<td></td>
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<tr>
<td>Dearer to buy</td>
<td>Cheaper to buy</td>
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<tr>
<td>Altitude 2000-3000m</td>
<td>Altitude 600-2000m</td>
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<tr>
<td>70 million bags exported</td>
<td>40 million bags exported</td>
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<tr>
<td>globally 65%</td>
<td>globally 35%</td>
<td></td>
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<tr>
<td>Sugar 6-9%</td>
<td>Sugar 3-7%</td>
<td></td>
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<tr>
<td>Susceptable to diseases &amp; pests</td>
<td>Disease &amp; pest resistant</td>
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Coffee Producers

Where does coffee come from?

Basically most places near the equator. We call this the bean belt. Countries in this region are ideal for the cultivation of coffee with their natural climate. Coffee plants like temperatures between 15 and 30 degrees (60 – 90 degrees Fahrenheit), rainfall or irrigation, plenty of sun and no frost. Brazil is the dominant producer, supplying around 32% of the world’s coffee. In the 1930’s, Brazil had a massive oversupply of coffee, due mainly to lack of consumption after the depression, and were burning absurd amounts of crop as a result. In 1937, they burned, or dumped into the ocean, what would have equalled to 60% of what coffee was consumed globally that year.