



# Chocolate

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# Outline

- Overview
- Exploratory Data Analysis
- Methods
- Results
- Conclusion



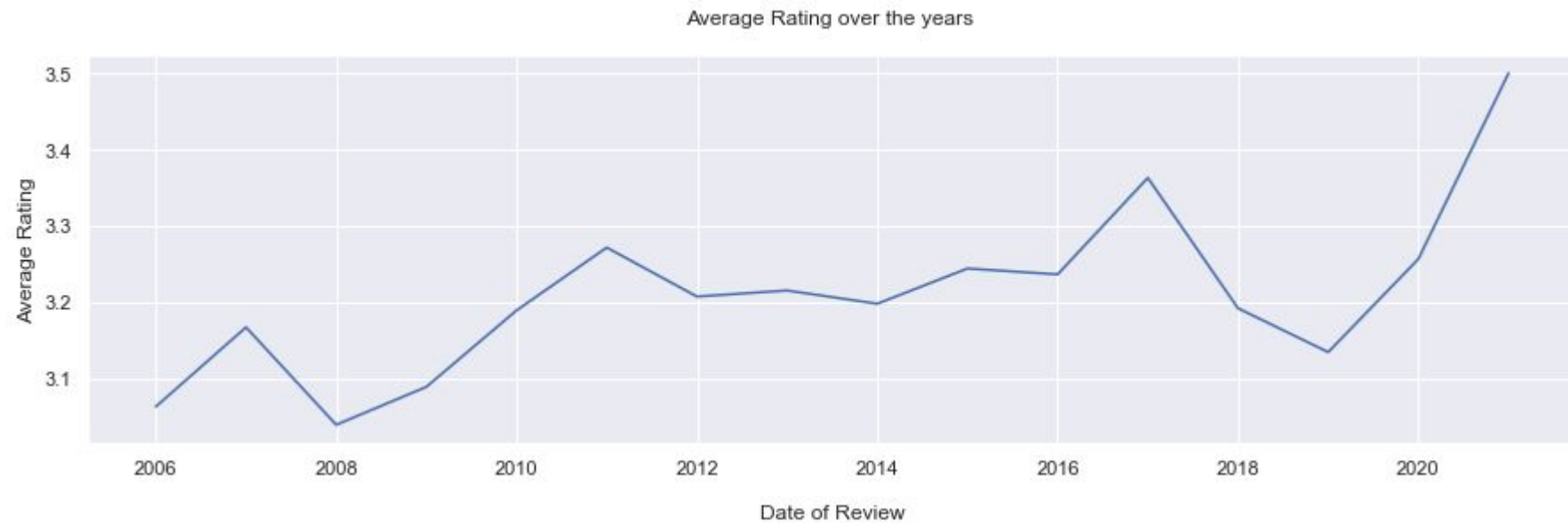
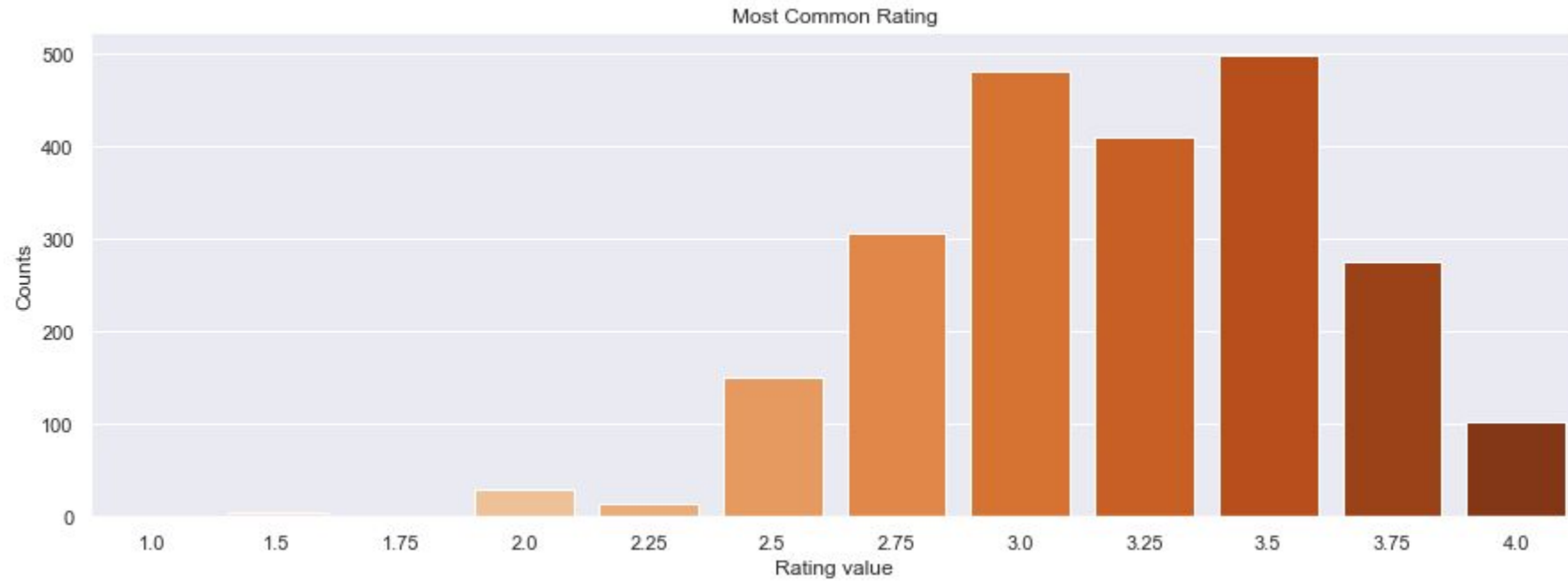




# Overview

- Data from [flavorsofcocoa.com](https://flavorsofcocoa.com)
  - 2,400+ dark chocolate bars
    - No bar name
    - Climate data
  - Interpretive Goal
  - What to invest in

# Exploratory Data Analysis

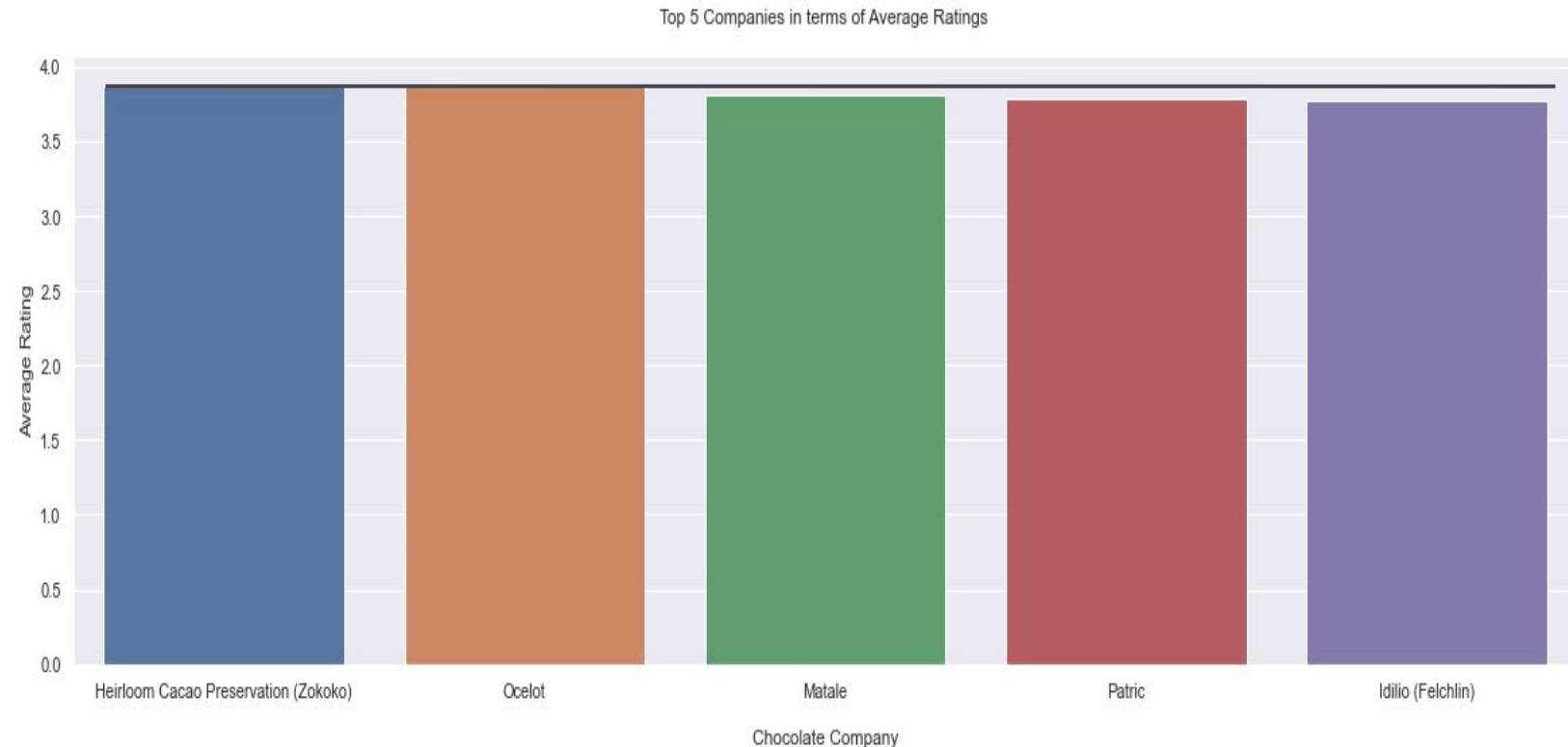
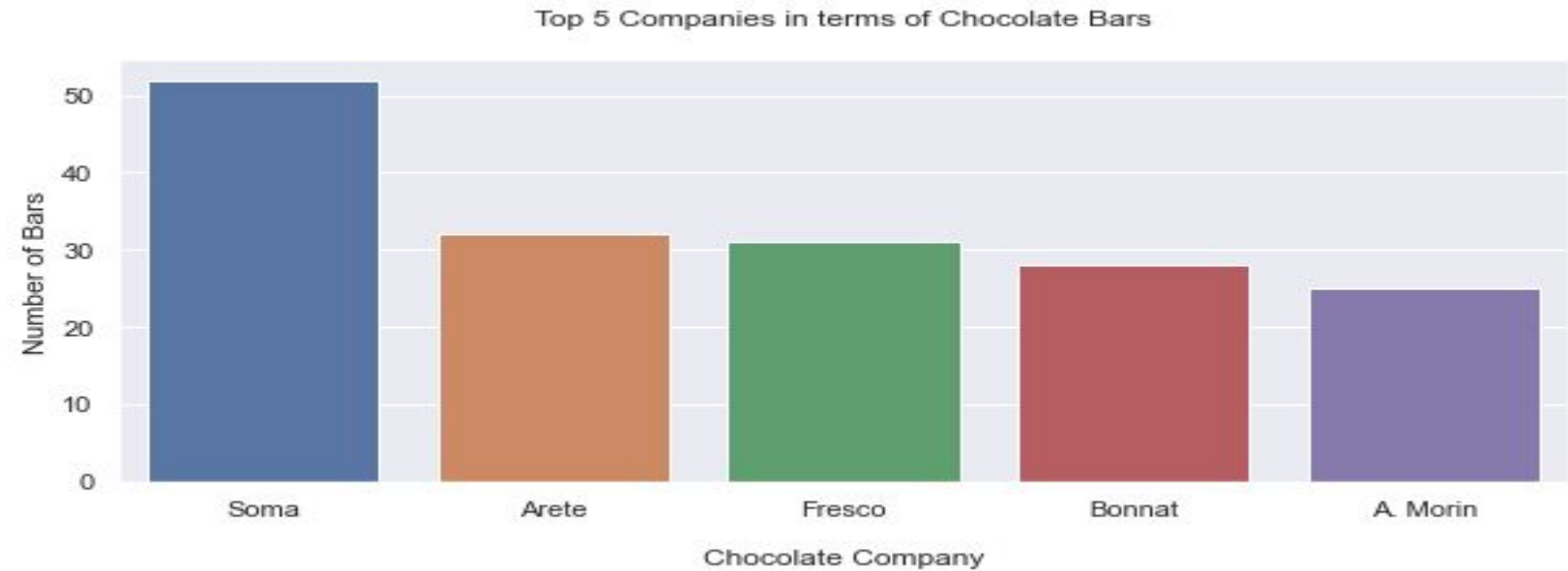


# EDA

In these two graphs, we can see the top 5 companies based on two categories.

The top one is based off of how many chocolate bars they make.

The second graph ranks them based off their average chocolate bar rating.

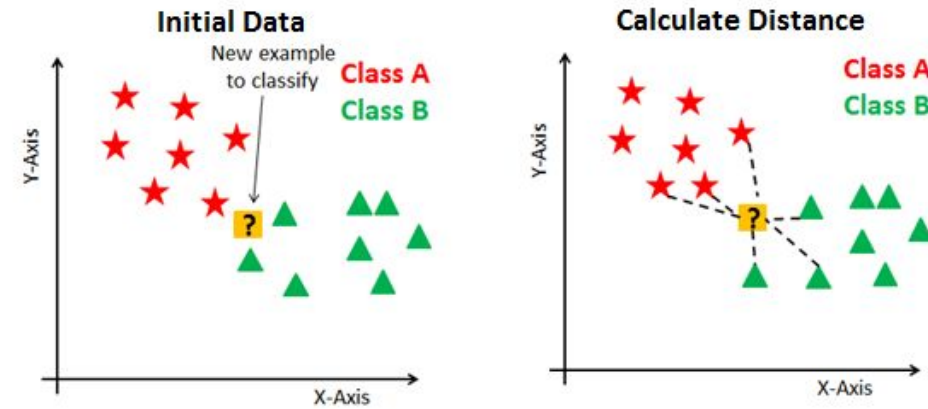
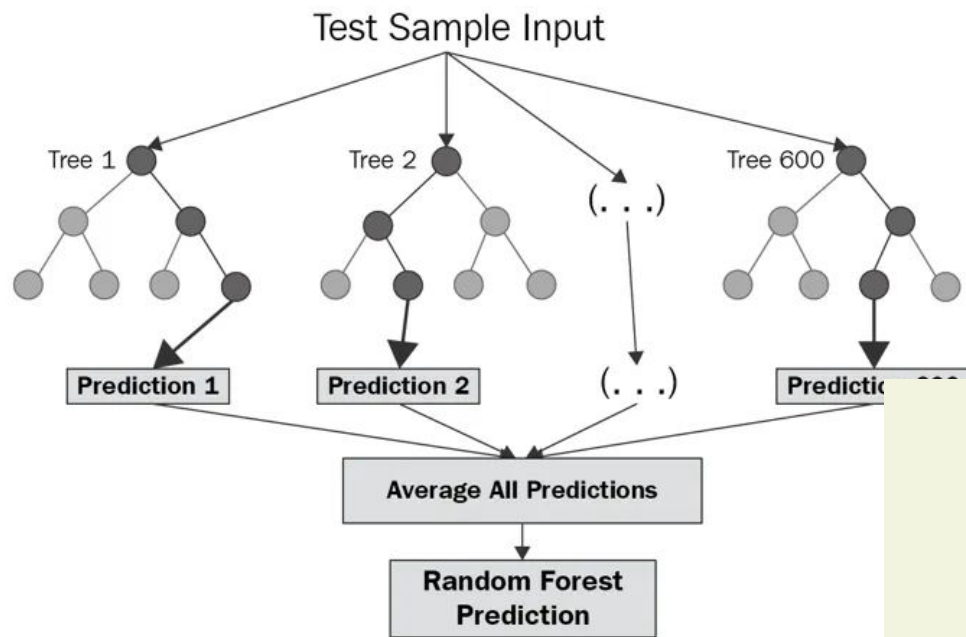




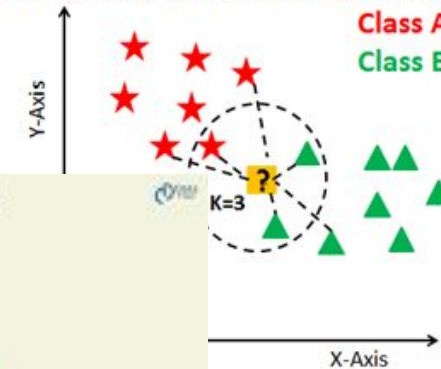
# Methods

We created a few models to see which preformed best

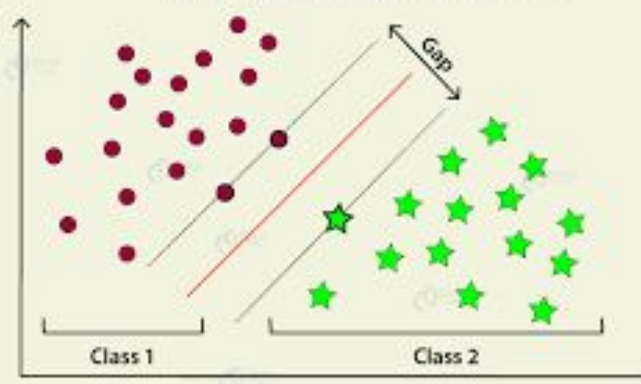
- KNN
- Random Forest
- Support Vector Machine



Finding Neighbors & Voting for Labels



Introduction to SVM

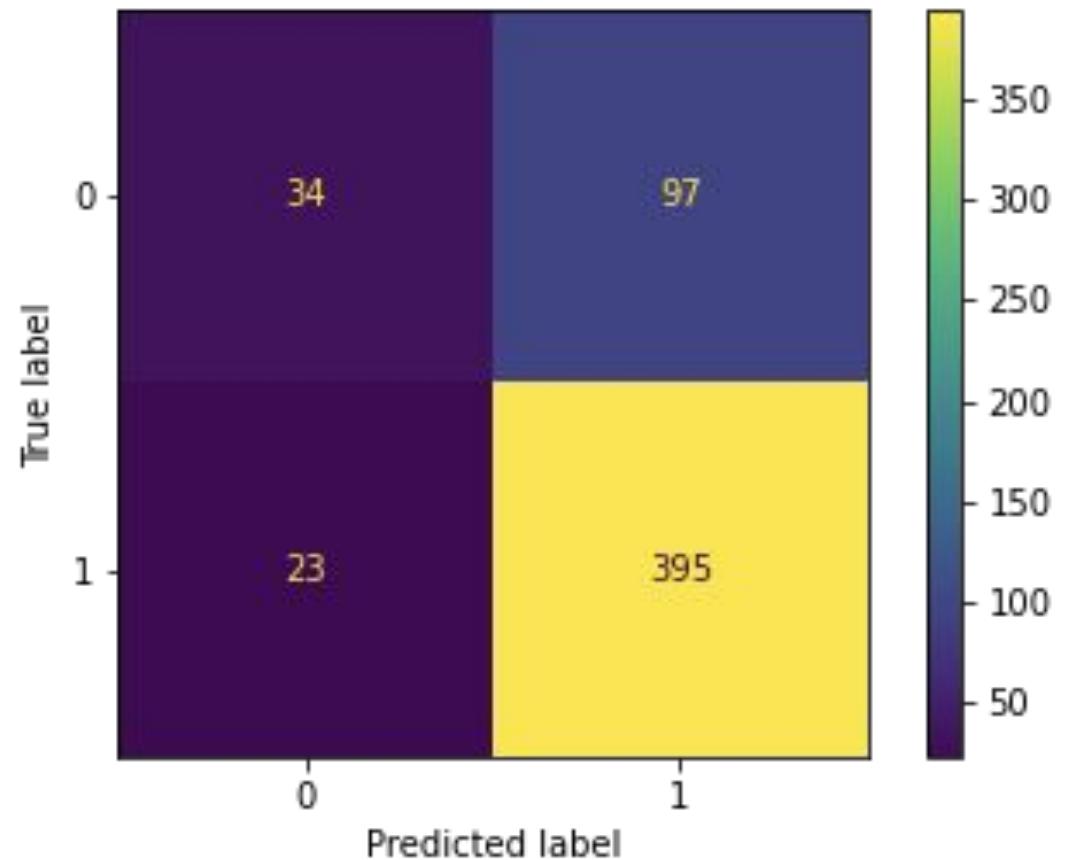


# Results

Our strongest model is a Random Forest Classifier

Focused on precision score to minimize investment risk

Final precision score of around 85-90%



# Conclusion

If we had more time:

Additional data collection

- Industrial/commercial chocolate
- Milk, white, etc.
- More specific ingredient information
- Manufacturers
- Ratings sourced from other places
- Profit data





# Thank you!

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# Soma (Toronto, Canada)

“The concept: finding new ways to create and enjoy chocolate.”

“We use Chuao (a village in Venezuela) to make a rough textured chocolate called “Old school milk”, only 3 ingredients to shine a light on its beautiful heritage.”

“The bones are Ossi dei Morti - a delicious crunchy cookie made with Piedmonte hazelnuts.”



# Arete Fine Chocolate (Spencer, Tennessee)

“We hand craft small batches of chocolate using fine flavor cacao”



# Fresco Artisan Chocolate (California Based)

“Fresco makes pure, dark chocolate. By purposefully changing cocoa roasting and chocolate conching, we create new chocolate experiences for your consideration.

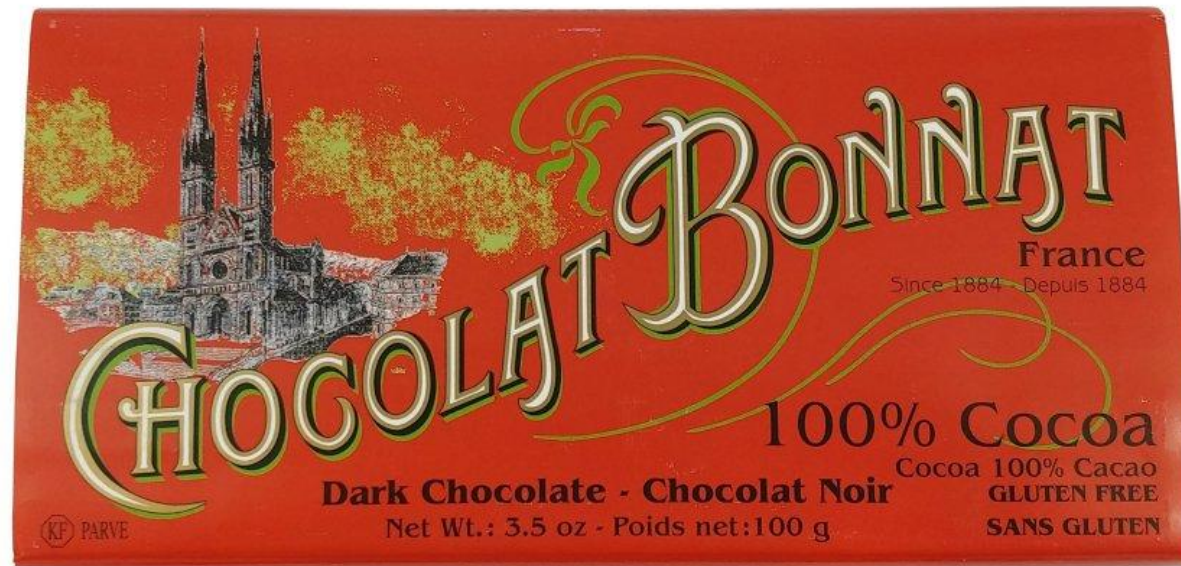
We use three ingredients: cocoa beans, cane sugar, and cocoa butter.”





# Bonnat Chocolate (Voiron, France)

“Bonnat is a family-run company... It has been handed down from generation to generation for over 130 years. ”



# Chocolaterie A. Morin (Donzère, France)

“Chocolaterie A. Morin grows its ingredients from its own family property, in the heart of the orchards and lavender fields in the village of Donzère, in the South of France.”



# Heirloom Cocoa Preservations, aka Zokoko Artisan Chocolate (Australia)

“Zokoko named best chocolate in Australia

Our bean to bar production techniques ensure that each Zokoko chocolate pays homage to the distinct and delicate flavours of it's own unique terroir.”



# Ocelot Chocolate (Scotland)

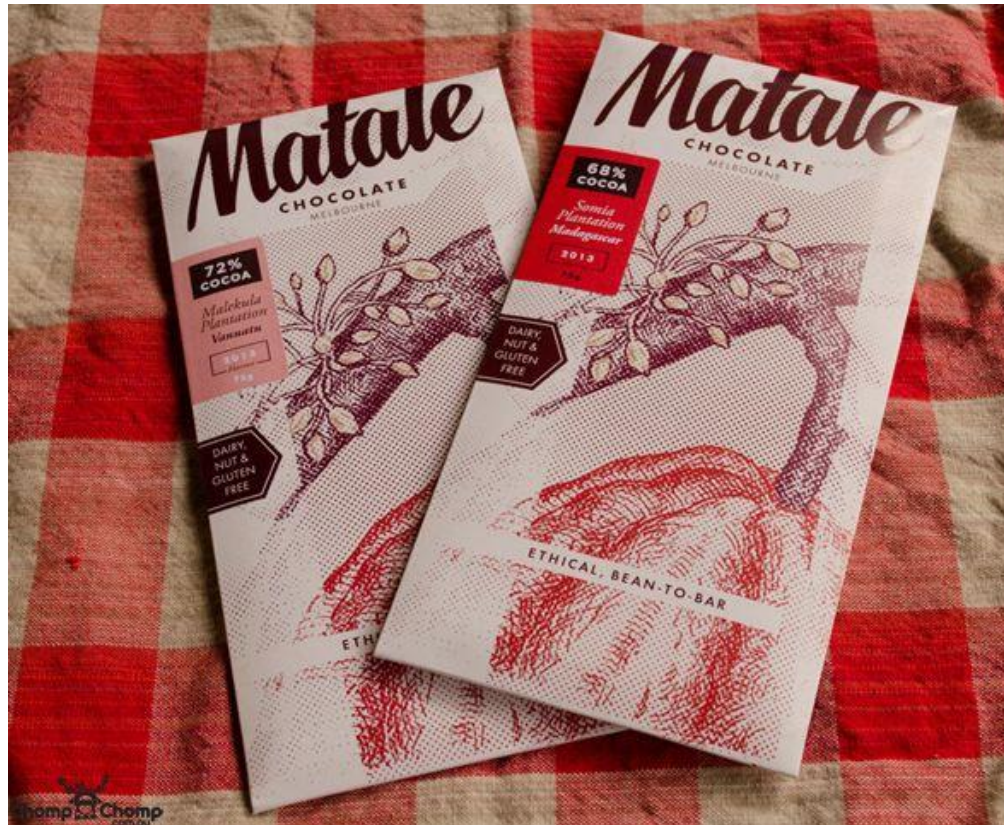
“We use only what we believe to be the most ethical organic produce, and aim to mirror this in our business practices in every way we can. Our outer packaging is made in the UK from FSC certified paper stock. The inner film is 100% home and industrial compostable.”





# Matale Chocolate (Melbourne, Australia)

“There are no flavours added and the aim is to highlight the individuality of cacao, depending on where it’s from and its genotype.”



# Idilio Origins (Premium Swiss Chocolate)

“(they)...pride themselves on seeking out rare Criollo cocoa bean varieties for their chocolate. Pascal Wirth and Niklaus Blumer concentrated their search on Venezuela where these rare varieties thrive only in the shade of other fruit trees.”

