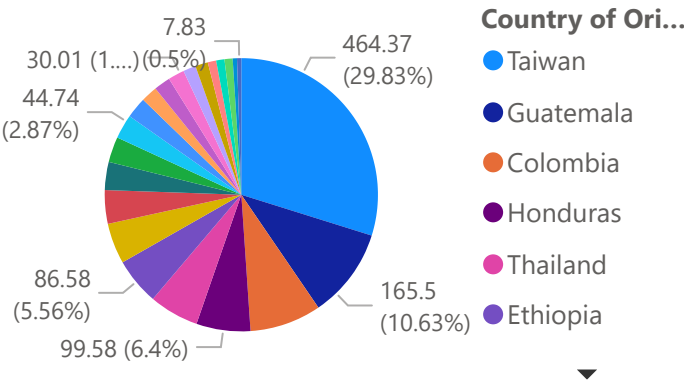# What are the key determinants of coffee quality as evaluated through sensory attributes such as aroma, flavor, acidity, etc.?

1,551.68
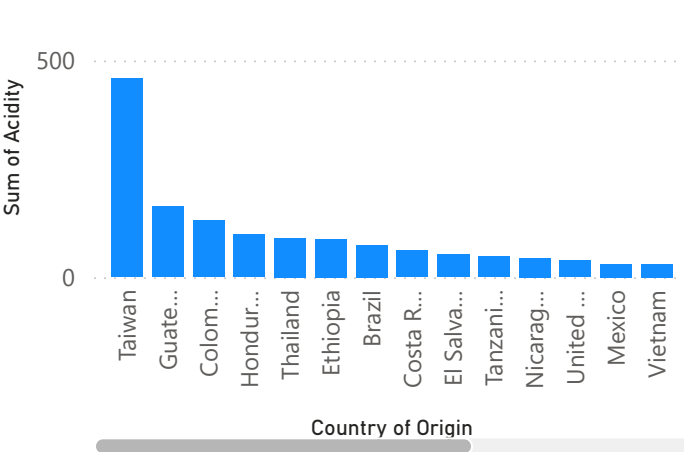Sum of Aroma

1,556.74
Sum of Flavor

1,545.23
Sum of Acidity

COMPARATIVE ANALYSIS :

Column chart

Bar chart

Sum of Flavor by Country of Origin

Country of Ori...
- Taiwan
- Guatemala
- Colombia
- Honduras
- Thailand
- Ethiopia

464.37 (29.83%)
165.5 (10.63%)
99.58 (6.4%)
86.58 (5.56%)
44.74 (2.87%)
30.01 (1....) (0.5%)
7.83

Sum of Sweetness by Country of Origin

COFFEE QUALITY ARE EVALUATED THROUGH SENSORY ATTRIBUTES; WHERE AROMA, FLAVOUR AND ACIDITY PLAYS A LUCRATIVE ROLE TO DECIDE THE COFFEE QUALITY.
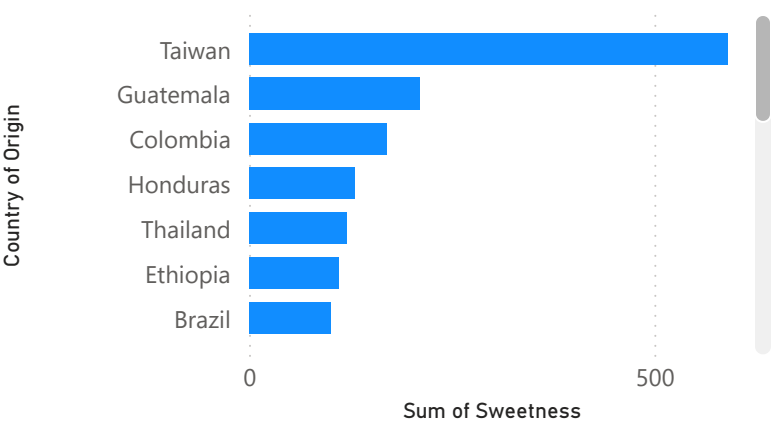
From my analysis TAIWAN tops the list with certain factors like SWEETNESS, FLAVOUR AND ACIDITY.

| 196.08 Sum of Aroma | Taiwan Country of Ori... | green Color |
| 195.93 Sum of Flavor | 250 Sum of Sweetn... | 2,106.22 Sum of Total Cup ... |

| 107.58 Sum of Aroma | Guatemala Country of Ori... | green Color |
| 110.99 Sum of Flavor | 140 Sum of Sweetn... | 1,181.99 Sum of Total Cup ... |

| 84.84 Sum of Aroma | Honduras Country of Ori... | green Color |
| 84.16 Sum of Flavor | 110 Sum of Sweetn... | 915.75 Sum of Total Cup ... |

| 69.81 Sum of Aroma | Taiwan Country of Ori... | greenish Color |
| 70.33 | 90 | 757.49 |

Sum of Acidity by Country of Origin

Country of Origin	Sum of Acidity	Sum of Aroma	Sum of Flavo
Brazil	74.16	74.75	74.9
Colombia	131.25	131.92	131.7
Costa Rica	61.84	60.74	61.8
El Salvador	52.68	51.33	51.6
Ethiopia	88.18	86.51	86.5
Guatemala	162.92	161.65	165.5
Honduras	98.90	100.18	99.5
Indonesia	15.50	15.34	15.0
Kenya	15.08	15.67	15.2
Total	**1,545.23**	**1,551.68**	**1,556.7**

Is there a correlation between processing methods, origin regions, and coffee quality scores?

Count of Region by Processing Method

1 (0.5%)
25 (12.44%)
46 (22.89%)
123 (61.19%)

Processing Method
- Washed / Wet
- Natural / Dry
- Pulped natural / honey
- Anaerobico 1000h
- Double Anaerobic Washed
- Double Carbonic Maceration / ...
- Honey,Mossto
- Semi Washed
- SEMI-LAVADO
- Wet Hulling
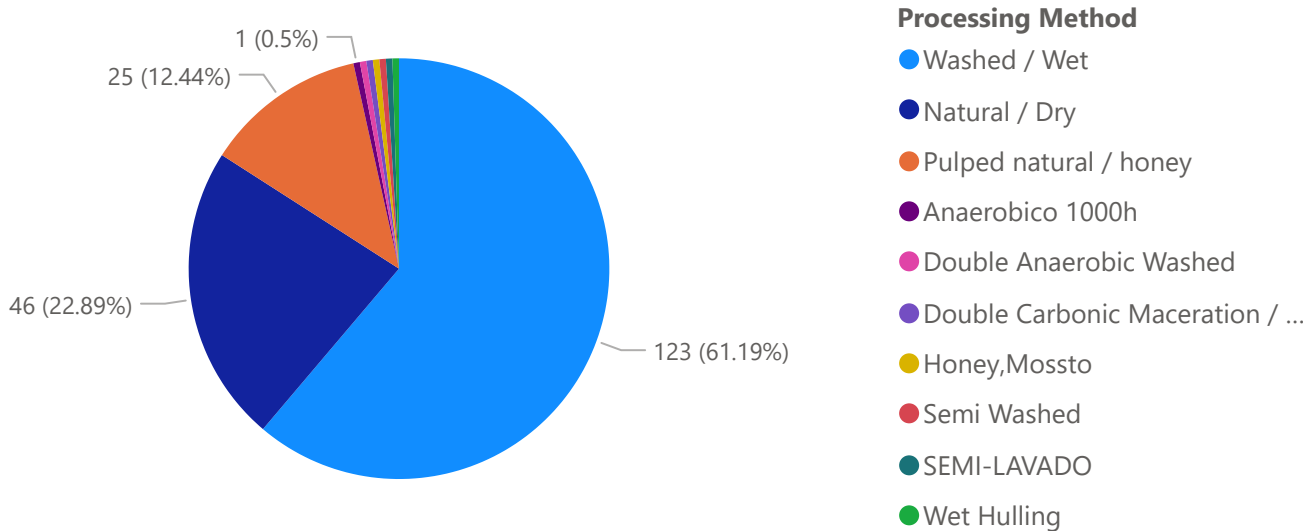
Sum of Total Cup Points by Processing Method

Processing Method	Sum of Total Cup Points
Washed / Wet	
Natural / Dry	
Pulped natural / ho...	
Double Anaerobic ...	
Semi Washed	
Honey,Mossto	
Double Carbonic M...	
Wet Hulling	
Anaerobico 1000h	
SEMI-LAVADO	

0K   5K   10K
Sum of Total Cup Points
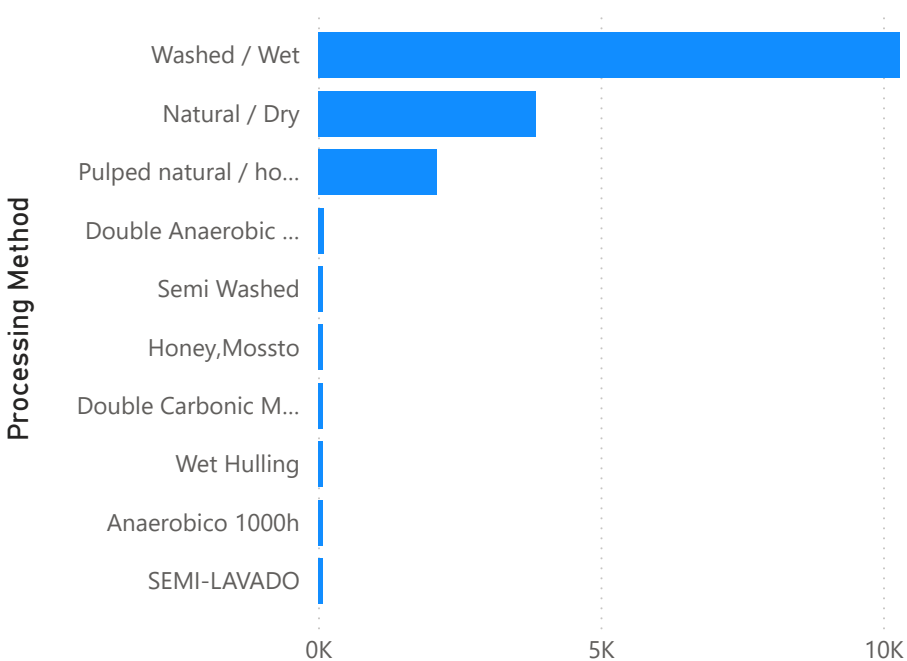
Sum of Total Cup Points by Region and Processing Method

Region (Dongsha...) Acatenan... Addis Ab...
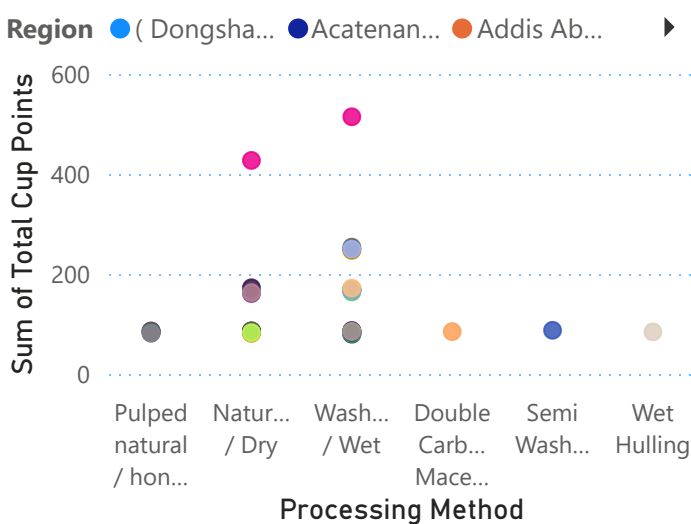
POSITIVE CORRELATION : **In the region of** **TAIWAN i can see the positive correlation.**
Most of Taiwan region shows positive correlation.

Processing methods IS also played a vital role here.
From the PI-CHART you can see why processing method is important
WASHED/WET INCLUDES 63.19% OF THE TOTAL REGION.

So, it proves that whichever region processed the coffee with this method have shown the positive relations.

Sum of Total Cup Points and Count of Country of Origin by Region

- Sum of Total Cup Points
- Count of Country of Origin

| Perfect positive correlation	Zero correlation	Perfect negative correlation

Scribbr
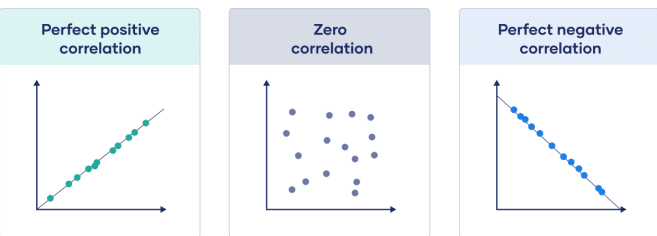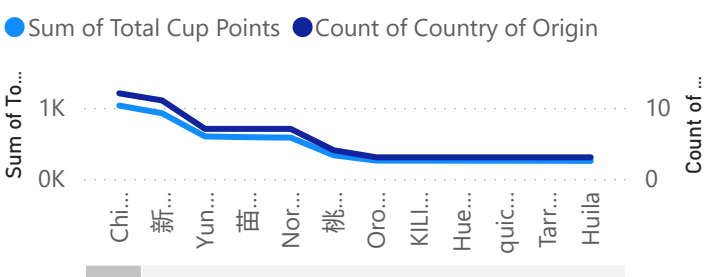
Can we identify any trends or patterns in defect occurrences and their impact on overall coffee quality?
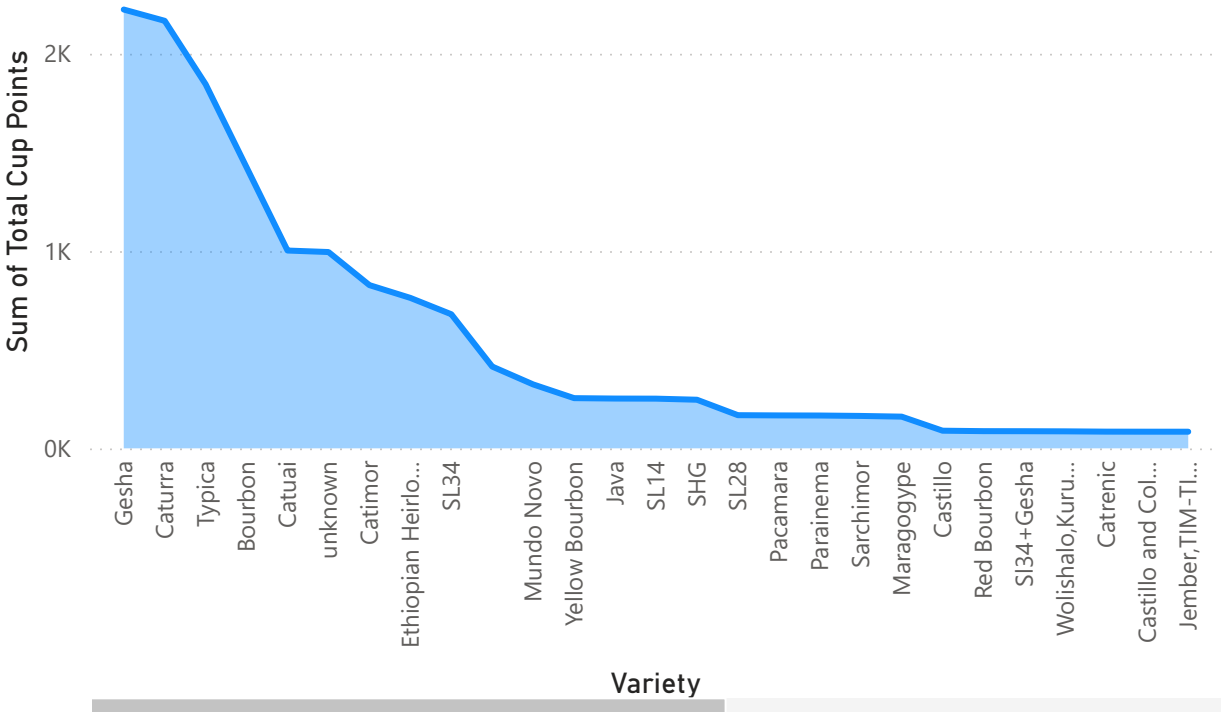
In defect column all values are null so it is impossible to analyze the trend pattern between over all coffee quality and defects.

we can create trends between other features, two of them are shown below.

Sum of Total Cup Points by Harvest Year
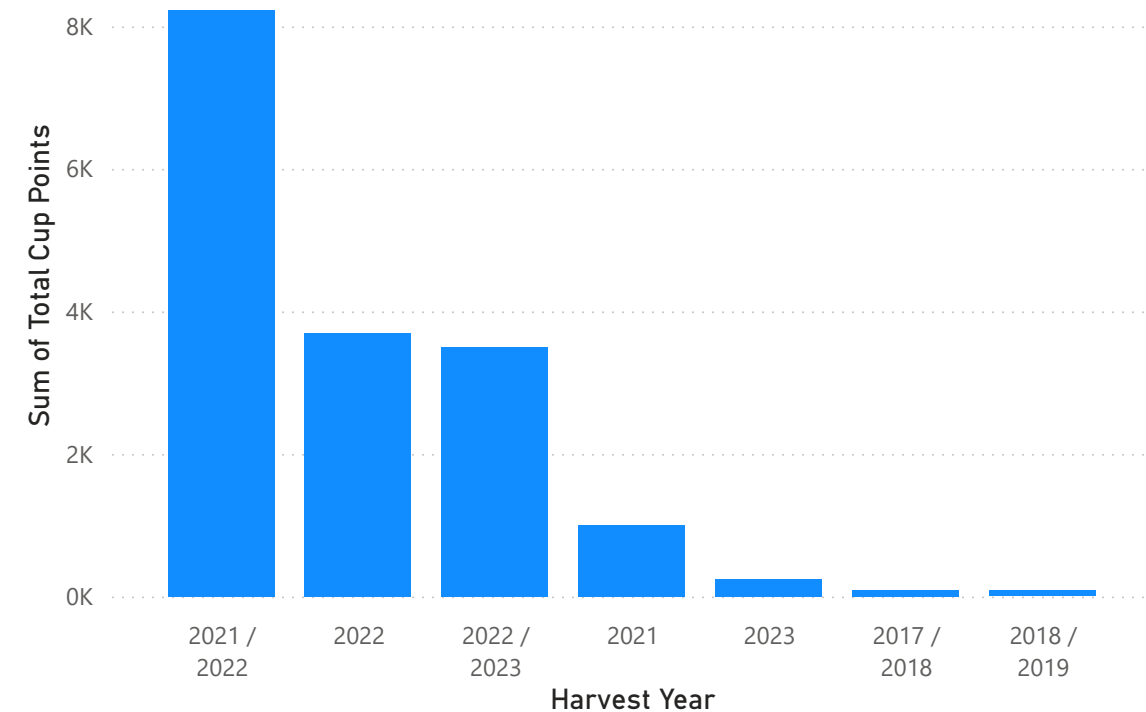
Sum of Total Cup Points by Variety

How do different variables interact to influence the Total Cup Points, which represent an overall measure of coffee quality?
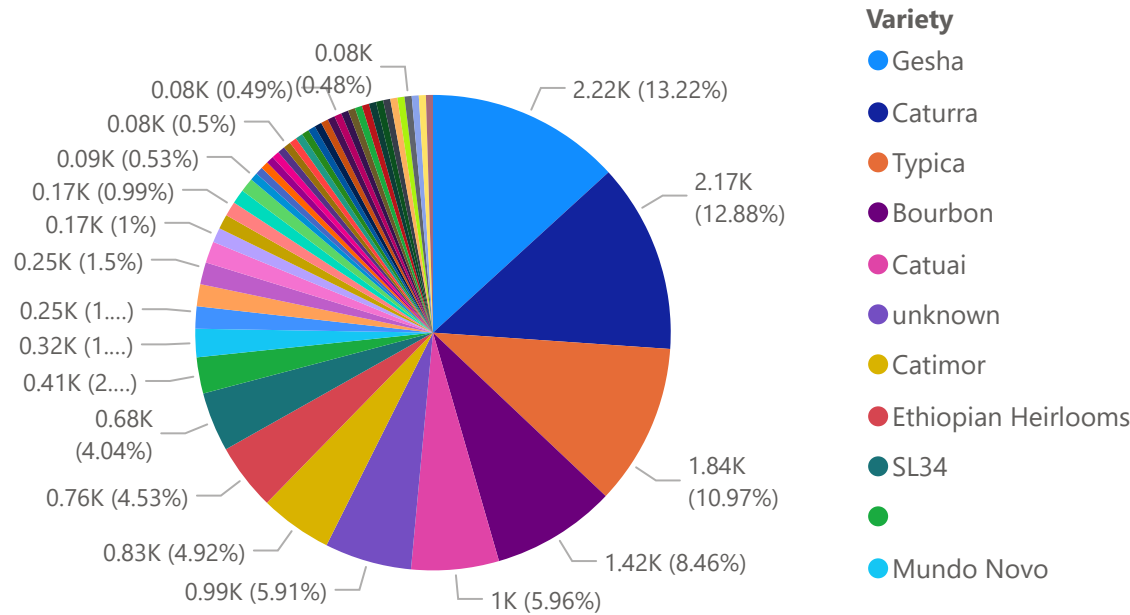
In pi-chart we can see the sum of cup points by variety. In this chart various variety are shown, out of which GESHA, CATPURA and TYPICA are top three.

In do-nut chart we can see sum of cup points by harvest year almost 50 percent of harvesting is harvested in the year of 2021/2022.
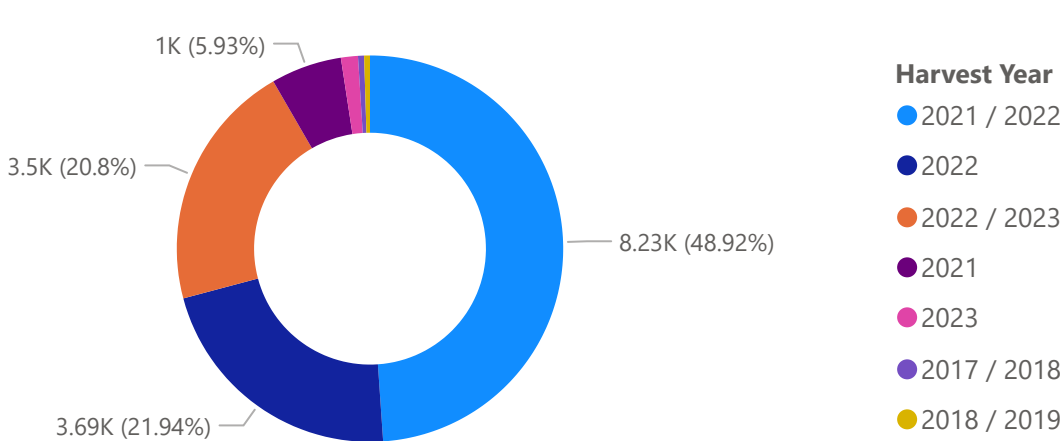
Last but not the least the most important observation with keen analysis that is TREE MAP.

FROM THE GIVEN CHARTS AND TREE MAP I HAD SHOWN YOU SOME INTROINSPECTIVE DATA WITH THAT HOW THE DIFFEFENT VARIABLES ARE ACTUALLY INFLUENCING THE TOTAL CUP POINTS.

Sum of Total Cup Points by Variety

Variety
- Gesha
- Caturra
- Typica
- Bourbon
- Catuai
- unknown
- Catimor
- Ethiopian Heirlooms
- SL34
- Mundo Novo

Sum of Total Cup Points by Country of Origin and Region

Sum of Total Cup Points by Harvest Year

Harvest Year
- 2021 / 2022
- 2022
- 2022 / 2023
- 2021
- 2023
- 2017 / 2018
- 2018 / 2019