# Coffee Quality Analysis

Joseph Rios Vignesh Sivanandha Rao

#### Overview

- 1. Background
- 2. Score Trends
- 3. Varieties
- 4. Processing Methods
- 5. Countries/Harvest Year
- 6. Producers
- 7. Altitude
- 8. Summary



#### Background

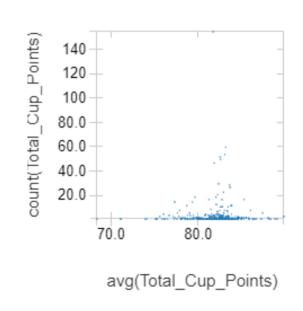
- Coffee Quality Institute
- Graded over 10 categories
  - Aroma
  - Flavor
  - Aftertaste
  - Acidity
  - Body
  - Balance
  - Uniformity
  - Clean Cup
  - Sweetness
  - "Cupper" Points

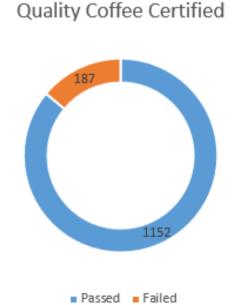
#### Other Information:

- Species/Variety
- Processing Method
- Country of Origin
- Harvest Year
- Altitude

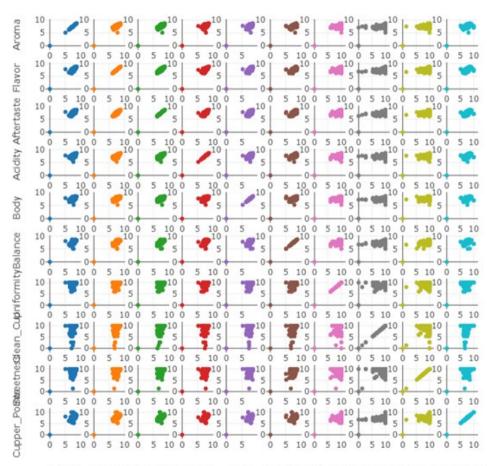
#### **Baseline Score Statistics**

	Mean	Median	Std. Dev.
Aroma	7.57	7.58	0.377
Flavor	7.52	7.58	0.398
Aftertaste	7.4	7.42	0.404
Acidity	7.54	7.58	0.38
Body	7.52	7.5	0.359
Balance	7.52	7.5	0.415
Uniformity	9.83	10	0.554
Clean Cup	9.84	10	0.764
Sweetness	9.85	10	0.629
Cupper Points	7.5	7.5	0.473
Total Cup Points	82.09	82.5	3.499





#### Scatterplot Matrix

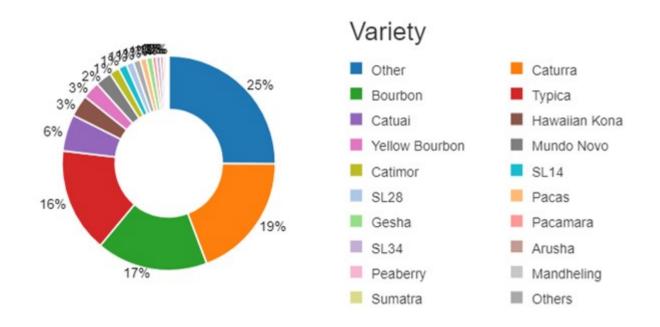


Aroma Flavor Aftertaste Acidity Body BalanceUniformit@lean\_Cupweetnessper\_Points

# Correlations among Individual Scores

	Aroma	Flavor	Aftertaste	Acidity	Body	Balance	Uniformity	Clean Cup	Sweetness	<b>Cupper Points</b>
Aroma		0.23177	0.25449	0.26207	0.25852	0.29723	0.51579	0.71935	0.60907	0.34379
Flavor	0.21962		0.1798	0.21911	0.23252	0.25947	0.50541	0.70092	0.60305	0.28822
Aftertaste	0.23756	0.17713		0.23168	0.23278	0.24917	0.50775	0.70426	0.60765	0.29313
Acidity	0.26051	0.22985	0.24671		0.24387	0.28746	0.51384	0.72826	0.60818	0.33885
Body	0.2719	0.25808	0.26227	0.25803		0.28186	0.52121	0.73127	0.61098	0.35113
Balance	0.27039	0.2491	0.24283	0.26308	0.2438		0.50976	0.71143	0.6002	0.33472
Uniformity	0.35115	0.36311	0.3703	0.35192	0.33738	0.38149		0.64938	0.56441	0.44162
Clean Cup	0.35552	0.36557	0.37287	0.36209	0.34363	0.3865	0.47142		0.5675	0.4421
Sweetness	0.36555	0.38196	0.39069	0.36721	0.34867	0.39598	0.49758	0.68917		0.46333
Cupper Points	0.27415	0.24255	0.25041	0.27184	0.26624	0.29341	0.51729	0.71334	0.61561	

#### **Varieties**

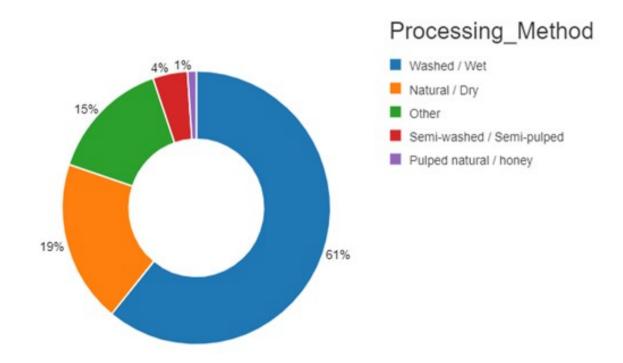


# Varieties (cont.)

	Variety Analysis					
Individual Score	Variety with Highest Average Score	Highest Average Score	Variety with Highest Max Score	Maximum Score		
Aroma	Ethiopian Yirgacheffe	8.125	Other	8.75		
Flavor	Ethiopian Yirgacheffe	8	Other	8.83		
Aftertaste	Ethiopian Yirgacheffe	7.875	Other	8.67		
Acidity	Sumatra Lintong	8	Other	8.75		
Body	Sumatra Lintong	8.08	Other	8.58		
Balance	Ethiopian Yirgacheffe	8	Other	8.75		
Uniformity	(Many tied)	10	(Many tied)	10		
Clean Cup	(Many tied)	10	(Many tied)	10		
Sweetness	(Many tied)	10	(Many tied)	10		
Cupper Points	Ethiopian Yirgacheffe	8.125	Other	10		

Variety Analysis with Adjusted Averages (Having more than 10 gradings)					
Individual Relevant Scorings	Variety with Highest Adjusted Average Score	Highest Adjusted Average Score			
Aroma	SL14	7.88			
Flavor	SL28	7.73			
Aftertaste	SL28	7.69			
Acidity	SL28	7.82			
Body	SL28	7.7			
Balance	SL28	7.81			
Cupper Points	SL14	7.74			

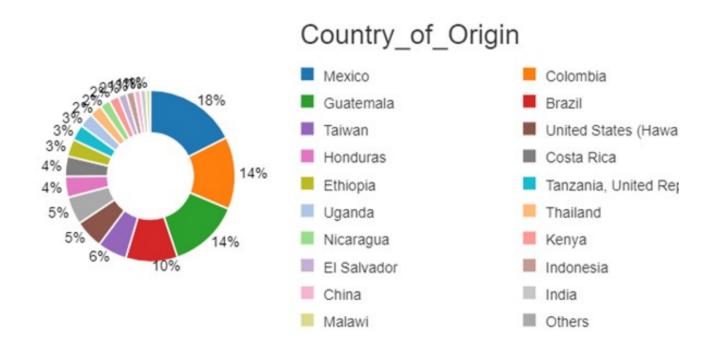
#### **Processing Methods**



# Processing Methods (cont.)

Processing Method Analysis					
Individual Score	Processing Method with Highest Average Score	Highest Average Score	Processing Method with Highest Max Score	Maximum Score	
Aroma	Semi-Washed / Semi-Pulped	7.6	Washed / Wet	8.75	
Flavor	Semi-Washed / Semi-Pulped	7.59	Washed / Wet	8.83	
Aftertaste	Pulped Natural / Honey	7.52	Washed / Wet	8.67	
Acidity	Other	7.56	Washed / Wet	8.75	
Body	Pulped Natural / Honey	7.63	Other	8.58	
Balance	Natural / Dry	7.59	Other	8.75	
Uniformity	Pulped Natural / Honey	10	(Tied)	10	
Clean Cup	Pulped Natural / Honey	10	(Tied)	10	
Sweetness	Pulped Natural / Honey	10	(Tied)	10	
Cupper Points	Other	7.63	Other	10	

#### Countries/Harvest Year

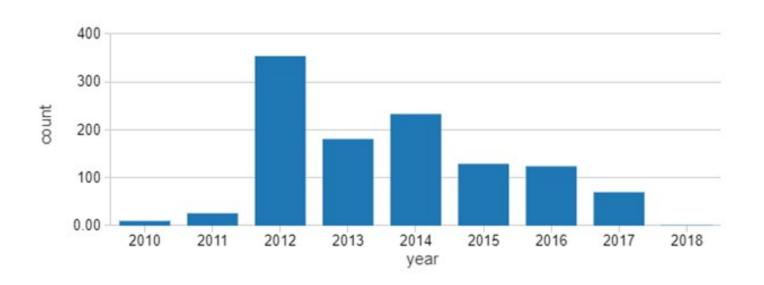


# Countries/Harvest Year (cont.)

	Country of Origin Analysis					
Individual Score	Country with Highest Average Score	Highest Average Score	Country with Highest Max Score	Maximum Score		
Aroma	Papua New Guinea	8.33	Ethiopia	8.75		
Flavor	Papua New Guinea	8.42	Ethiopia	8.33		
Aftertaste	Ethiopia	7.89	Ethiopia	8.67		
Acidity	Papua New Guinea	8.33	Ethiopia	8.75		
Body	Japan	8.08	Ethiopia	8.58		
Balance	Papua New Guinea	8.25	Ethiopia	8.75		
Uniformity	(Many Tied)	10	(Many Tied)	10		
Clean Cup	(Many Tied)	10	(Many Tied)	10		
Sweetness	(Many Tied)	10	(Many Tied)	10		
Cupper Points	Japan	8.08	Taiwan	10		

Country of Origin Analysis with				
Individual Relevant Scorings	Country with Highest Adjusted Average Score	Highest Adjusted Average Score		
Aroma	Ethiopia	7.9		
Flavor	Ethiopia	8.01		
Aftertaste	Ethiopia	7.89		
Acidity	Ethiopia	8.04		
Body	Ethiopia	7.92		
Balance	Ethiopia	7.97		
Cupper Points	Ethiopia	8.05		

### Countries/Harvest Year (cont.)



### Countries/Harvest Year (cont.)

Where & When the Most Beans were harvested for grading (Top 5)

Country of Origin	Harvest Year	Number of Gradings
Mexico	2012	182
Guatemala	2012	46
Colombia	2013	40
Guatemala	2014	33
Colombia	2012	31

Top 5 Best Harvest Years for Different Countries (Having more than 10 gradings)

Country of Origin	Harvest Year	Average Adjusted Score
Ethiopia	2014	86.59
Brazil	2011	84.52
Colombia	2015	83.79
China	2015	83.77
Colombia	2014	83.54

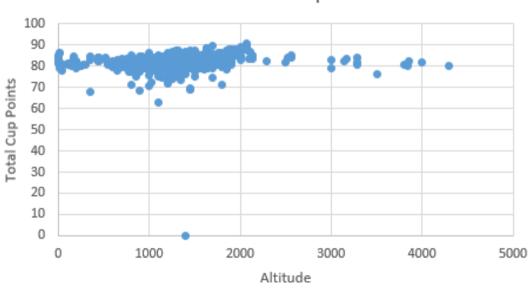
#### **Producers**

Top 5 Most Prolific Producers (Owners)			
Juan Luis Alvarado Romero	155		
Racafe & Cia S.C.A	60		
Exportadora de Cafe Condor S.A	54		
Kona Pacific Farmers Cooperative	52		
Ipanema Coffees	50		

Producer Analysis with Adjusted Averages			
Individual Relevant Scorings	Producer with Highest Adjusted Average Score	Highest Adjusted Average Score	
Aroma	Nucoffee	7.82	
Flavor	Ethiopia Commodity Exchange	7.96	
Aftertaste	Ethiopia Commodity Exchange	7.94	
Acidity	Ethiopia Commodity Exchange	8.09	
Body	Ethiopia Commodity Exchange	7.99	
Balance	Ethiopia Commodity Exchange	8.01	
Cupper Points	Ethiopia Commodity Exchange	8.06	

#### Altitude





# Summary

Overall Best and Worst Factors				
	Factor	<b>Total Cup Points</b>		
Best Average Variety	Ethiopian Yirgacheffe	85.96		
Worst Average Variety	Pacas	80.91		
Variety of Best	Other	90.58		
Best Average Processing Method	Pulped Natural / Honey	82.81		
Worst Average Processing Method	Washed / Wet	81.97		
Processing Method of Best	Washed / Wet	90.58		
Best Average Country (For Coffee)	Papua New Guinea	85.75		
Worst Average Country (For Coffee)	Haiti	77.18		
Country of Best (Coffee)	Ethiopia	90.58		
Best Average Owner	Metad plc	89.78		
Worst Average Owner	Juan Carlos Garcia Lopez	68.33		
Owner of Best	Metad plc	90.58		