Abstract #8508

Coffee Cuality 2.0 – New cupping, drip brew, cold brew and espresso evaluation scorecards, protocols and analyses

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Introduction

Current methods for the sensory evaluation of coffee quality blur the lines between analytical/intensity testing with trained judges and affective/hedonic testing with consumers, and provide little justification for the score given to the coffee. The *Coffee Cuality* Method (www.coffeecuality.com) provides a comprehensive assessment of the sensory quality of coffee that includes an overall quality rating on a 100-point scale, just-about-right (JAR) scaling of select attributes, check-all-that-apply (CATA) selections from a list of sensory and holistic attributes and open comments which are then analyzed with a comprehensive suite of statistical tools, with the dual purpose of documenting quality scores and assessing expert performance.

Methodology

We propose new and improved *Coffee Cuality* scorecards (Figure 1), protocols and analyses which are based on (1) testing with 56 Q-graders, SCA-certified and industry expert coffee tasters who evaluated the sensory quality of 12 specialty coffees and commercial blends brewed with their preferred method (cupping, drip, pour over or espresso); (2) focus groups with a subset of 18 experts; our Coffee Taster's Flavor Wheel (Spencer et al., 2016); and (4) the findings from our extensive sensory and consumer research on drip brew and cold brew coffee (Batali et al., 2022; Guinard et al., 2023).

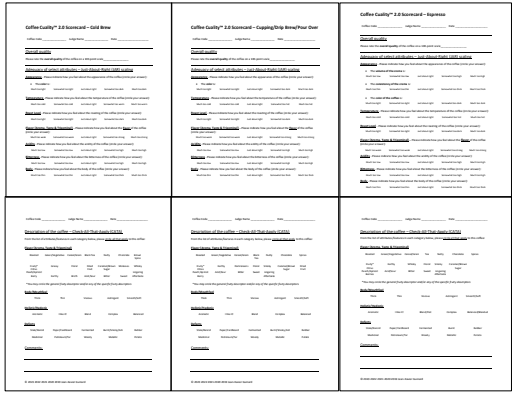

Figure 1: *Coffee Cuality* 2.0 Scorecards, (L-R) Cold brew, Cupping/Drip Brew/Pour over, Espresso

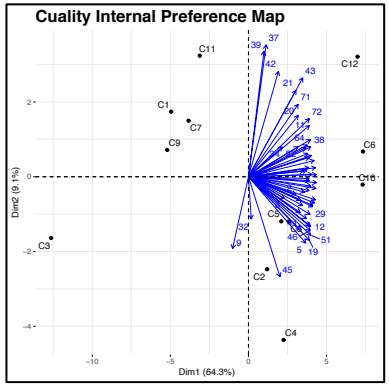

Figure 2: PCA biplot of quality ratings showing experts and coffees (n-56 experts).

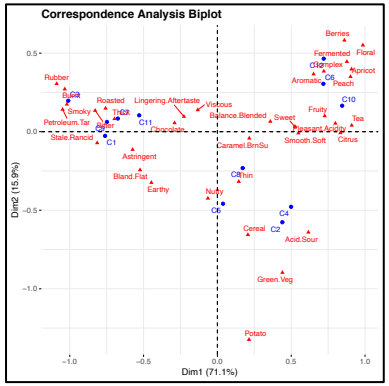

Figure 3: Correspondence analysis biplot of CATA selections and coffees.

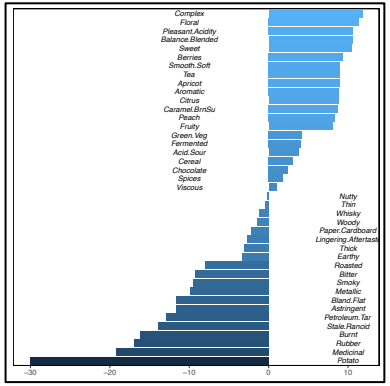

Figure 5: Penalty/lift analysis of CATA selections.

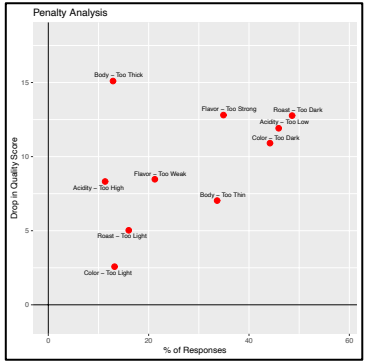

Figure 4: Penalty analysis biplot for JAR attributes.

Key Learnings

- Experts were aligned in their quality ratings (Figure 2).
- Key drivers of quality were identified by penalty and penalty/lift analyses of JAR ratings and CATA selections, respectively (Figures 4 & 5).
- Correspondence analysis of CATA selections created a flavor map of the coffees (Figure 3).
- Word clouds could be derived from CATA selections and comments to describe the coffees.
- *Coffee Cuality* was easy to use and allowed for the 'deconstruction' and justification of the quality ratings.

Improvements

- JAR and CATA attribute lists were adjusted for each coffee type to better account for their respective appearance, flavor profile and mouthfeel.

Conclusion/Perspectives

Coffee Cuality 2.0 offers the coffee community innovative and validated sensory and sensometrics tools to evaluate a range of coffee beverages for their sensory quality, and documents expert performance.

Acknowledgments:

We thank the 56 experts who tested the original Coffee Cuality Method, Andrew Cotter for website design and the members of The (original) Espresso Protocol™ Group (Timothy O'Connor, Timothy Schilling, Massimo Bataglia,[and Jean-Xavier Guinard]) for sharing their expertise in espresso coffee quality, preparation, and characteristics.

References:

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