

SENSORY EXPERIENCE TEST on DISPOSABLE COFFEE CUP LIDS

Test Date: January 21, 2014

Report Date: March 10, 2014

OBJECTIVE

To determine if lids have an impact on flavor and overall sensory experience and if so, how much and was one lid better than another.

METHOD

- Three lids were compared to no lid as the control baseline of the ideal experience with a score of 100.
- Lids
 - Brand X
 - Brand Y
 - FoamAroma
- Four beverages were used in the evaluation.
 - Brewed Tea = Jasmine
 - Brewed Coffee = Groundwork Angel City Blend prepared in a FETCO 2041e
 - Latte
 - Espresso = Groundwork's Espresso Blend (Black Magic)
 - Espresso Dosage = 20g from a La Marzocco Linea
 - Milk = Alta Dena Whole
 - Flavored Latte
 - Espresso = Groundwork's Espresso Blend (Black Magic)
 - Espresso Dosage = 20g from a La Marzocco Linea
 - Milk = Alta Dena Whole
 - Syrup = Monin Vanilla
- All drinks were prepared at the same time to allow testers to taste any drink with any lid at any time for direct comparison.
- Scoring System
 - Categories: Aroma, Fragrance, Flavor, Aftertaste, Balance, and Overall
 - Custom format based on industry scoring standards with a possible score of 10 for each category then multiplied by 2 to get a Total Score based on 100 point maximum.

SCORE RANGES AND LEVELS			
GOOD	VERY GOOD	EXCELLENT	EXTRAORDINARY
6.00	7.00	8.00	9.00
6.25	7.25	8.25	9.25
6.50	7.50	8.50	9.50
6.75	7.75	8.75	9.75

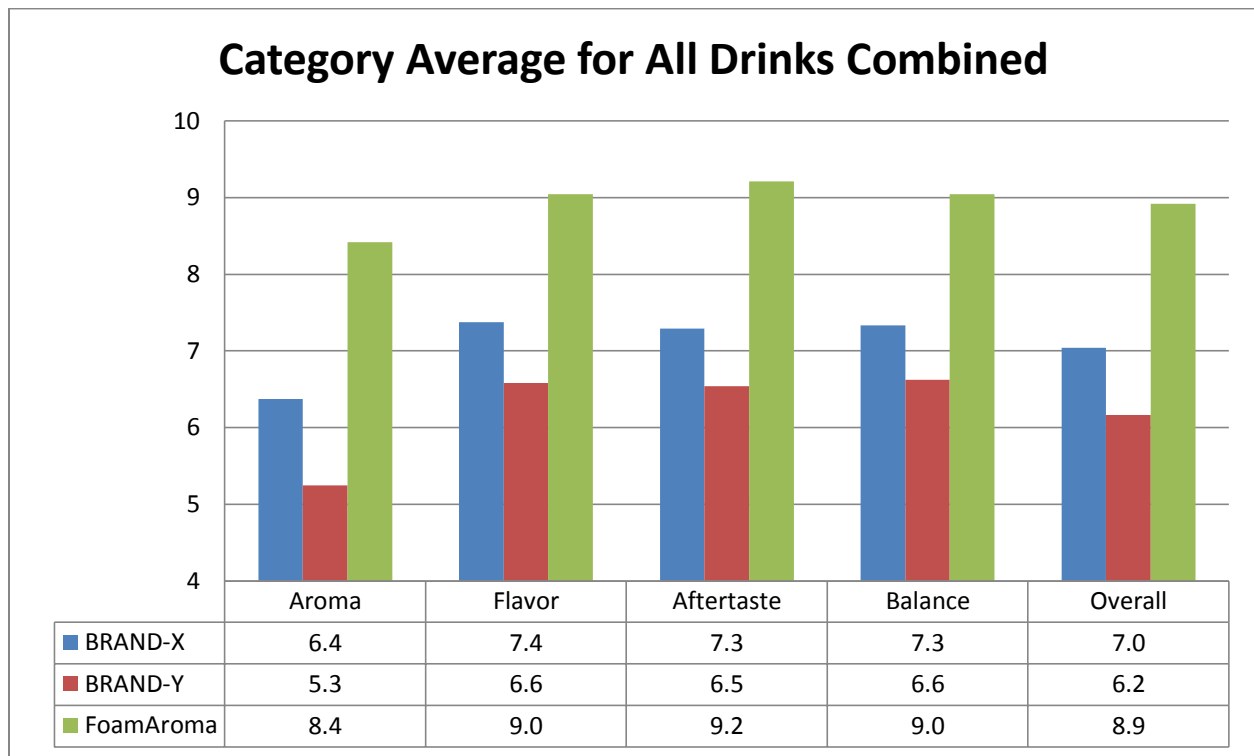
FACILITY & TESTERS

- Test was performed at the Groundwork Coffee Company headquarters quality training lab in Hollywood, CA.
- Testers (all work at Groundwork Coffee Company)
 - Phil Hand: Q-Grader/ Sales
 - Robert Ford: QC Retail Educator/ Training
 - Steve Lee: Director of Coffee and Education

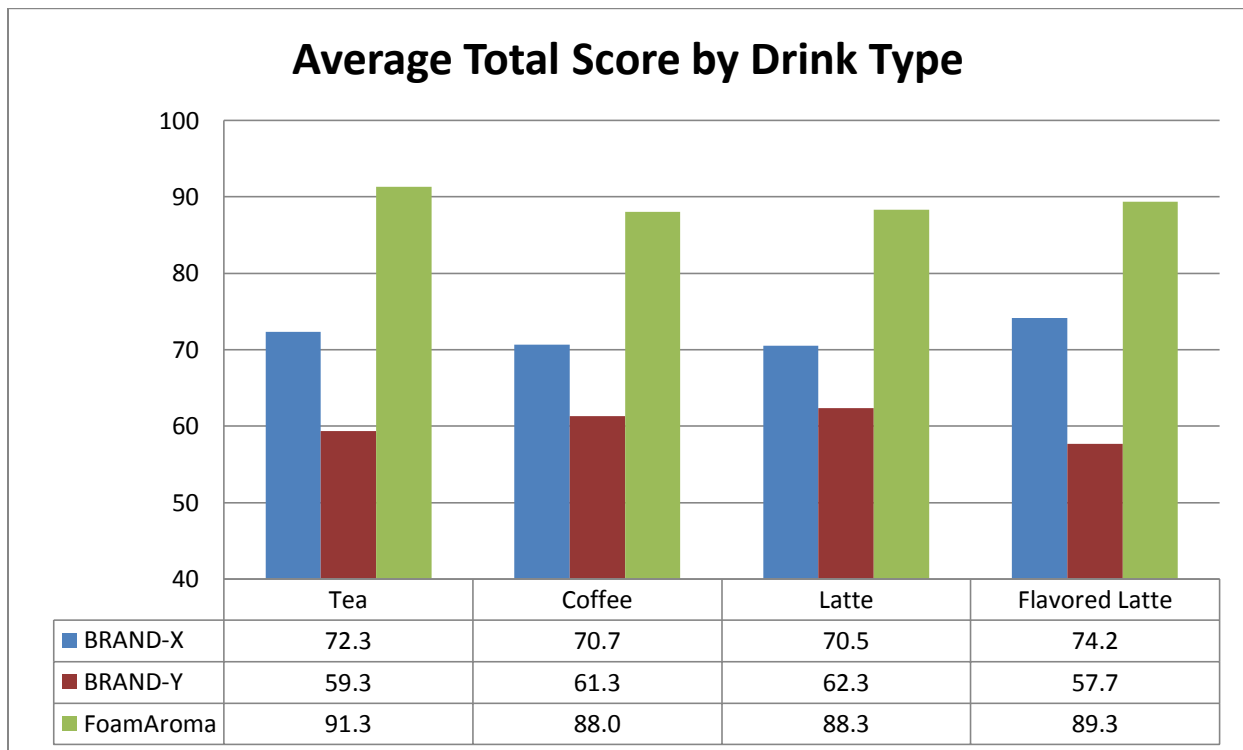
FINDINGS & NOTES FROM TESTERS

- Overall, the test participants preferred the FoamAroma lid over the other lids, finding the drinking experience most similar to that of no lid.
- The FoamAroma lid is user friendly and snaps on easily, however some users felt that there was a “learning curve” to these lids as they do change the way that one does traditionally drink from lids. This is easily overcome by the third or fourth sip, but it is also something that one must consider.
- Most users found the flow rate very pleasing and liked the fact that the FoamAroma lid allowed the beverage to cool a little faster, making drinking a bit easier.
- The FoamAroma lid seemed to excel with the milk based beverages; allowing the foam to easily flow through the drinking area, enhancing the total experience overall.
- Aroma was enhanced by the FoamAroma Lid as compared to the other lids in the test, but those results were very diminished when compared to no lid.

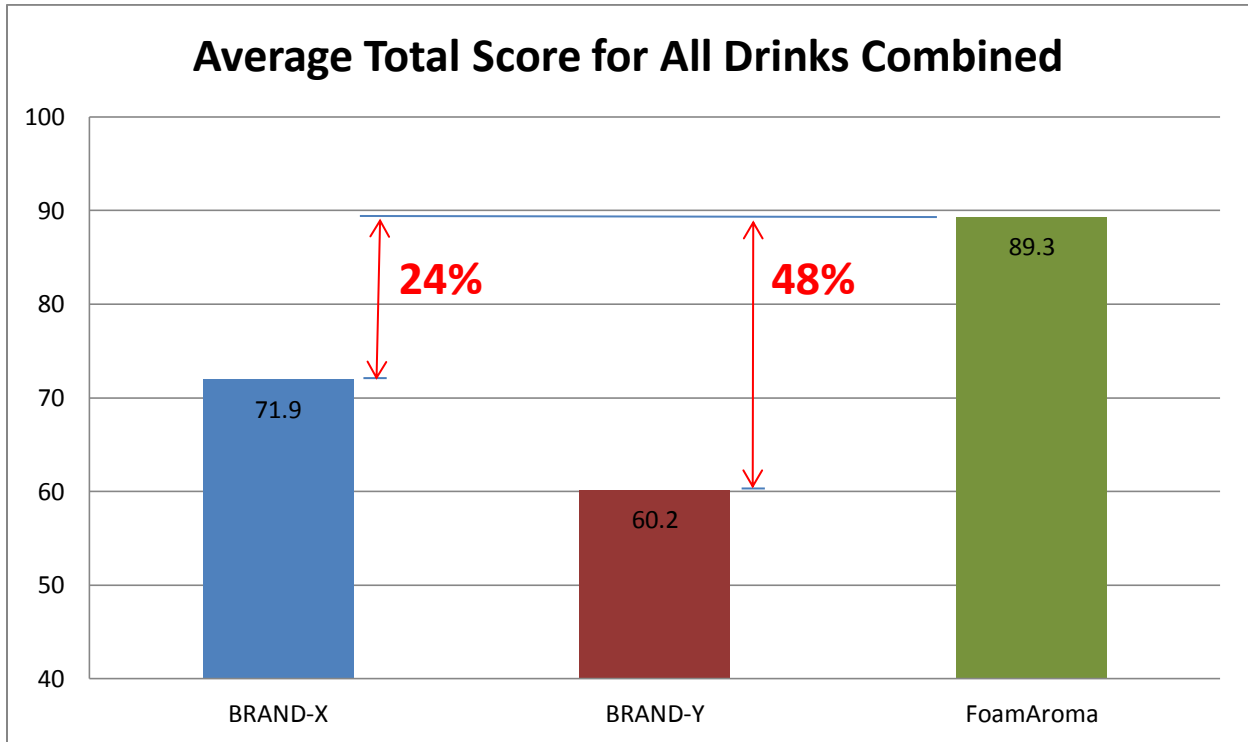
CONCLUSIONS from DATA SUMMARY



- **FoamAroma scored highest in all sensory categories for average of all drinks combined.**
- **FoamAroma was the only lid to score Extraordinary in any categories (note 9.0 for Flavor & Balance).**



- **FoamAroma scored highest average Total Score for each type of drink.**
- **FoamAroma was the only lid to score an Extraordinary score (note 91.3 for tea).**



- **FoamAroma scored overall 24% and almost two point levels higher than Brand-X**
 - **71.9 Low Very Good vs. 89.3 High Excellent**
- **FoamAroma scored overall 48% and almost three point levels higher than Brand-Y**
 - **60.2 Low Good vs. 89.3 High Excellent**

Below are histograms representing how many times the lid received the score in any sensory category. The scores are truncated to group by whole number ranges.

<h3 style="text-align: center;">Score Counts - TEA</h3> <table border="1"> <thead> <tr> <th>Score</th> <th>BRAND-X</th> <th>BRAND-Y</th> <th>FoamAroma</th> </tr> </thead> <tbody> <tr><td>3</td><td>0</td><td>1</td><td>0</td></tr> <tr><td>4</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>5</td><td>2</td><td>4</td><td>0</td></tr> <tr><td>6</td><td>4</td><td>3</td><td>0</td></tr> <tr><td>7</td><td>2</td><td>4</td><td>0</td></tr> <tr><td>8</td><td>4</td><td>3</td><td>4</td></tr> <tr><td>9</td><td>3</td><td>0</td><td>7</td></tr> <tr><td>10</td><td>0</td><td>0</td><td>4</td></tr> </tbody> </table>	Score	BRAND-X	BRAND-Y	FoamAroma	3	0	1	0	4	0	0	0	5	2	4	0	6	4	3	0	7	2	4	0	8	4	3	4	9	3	0	7	10	0	0	4	<p>FoamAroma received all 8's, 9's, & 10's and is the only lid to score 10's.</p>
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TESTERS' COMMENTS

TEA

Brand-X

EVALUATOR	POSITIVE	NEGATIVE
Phil Hand		
Robert Ford	low fragrance	
Steve Lee	moderate aroma, honey, sweet, jasmine	hard to sip, have to suck, muted, grassy, too hot, astringent, drying

Brand-Y

Phil Hand		
Robert Ford		low aroma, slippery texture
Steve Lee	honey, sweet	plastic, astringent, most difficult to use, most tilt, have to suck, hard to avoid burning, muted flavors, hard to get liquid out, creates a vacuum

FoamAroma

Phil Hand		
Robert Ford	enhances drinking (vs. other lids) more intense aroma, nice aftertaste	
Steve Lee	some aroma/floral, sweet, floral, honey, balanced, best flow rate, easiest to drink from	astringent, less flavor than none, takes some getting used to, more green tea less jasmine, muted flavors and aroma

COFFEE

Brand-X

EVALUATOR	POSITIVE	NEGATIVE
Phil Hand		
Robert Ford		
Steve Lee		muted fragrance, sour, dry, had to suck-creating some difficulty

Brand-Y

Phil Hand		
Robert Ford		lacking aroma, muted aftertaste and flavor
Steve Lee		no fragrance, muted, flat, sour, dry finish, hard to drink, created a vacuum making it difficult, least favorite

FoamAroma

Phil Hand		
Robert Ford	snaps on comfortably, easy to drink from, best aroma (lids)	
Steve Lee	good flow rate, closest notes to no lid, some aroma, best flow rate, sweet, caramel, dates, balanced, clean	dry aftertaste, finish suffered a little

TESTERS' COMMENTS

LATTE

Brand-X

EVALUATOR	POSITIVE	NEGATIVE
Phil Hand		
Robert Ford		holds back foam
Steve Lee	some aroma and balanced flavors, familiar	not much foam allowance, muted aroma, muted flavors, drying finish, have to suck-poor flow rate-changes the way one drinks

Brand-Y

Phil Hand		
Robert Ford		least favorite, difficult
Steve Lee		plastic-like, milky, lacking intensity, unbalanced, drying finish, hard to drink from, no foam allowed through lid

FoamAroma

Phil Hand	better than other lids, favorite	less creamy than no lid
Robert Ford	allows foam through easily	
Steve Lee	allows foam through, good flow rate, creamy, sweet, little loss of aroma	

FLAVORED LATTE

Brand-X

EVALUATOR	POSITIVE	NEGATIVE
Phil Hand		
Robert Ford		
Steve Lee	sucking increases aroma (perception)	dry finish

Brand-Y

Phil Hand		
Robert Ford		
Steve Lee		lacking foam, dry finish, hard to use, no aroma, some plastic, poor flow rate, least favorite

FoamAroma

Phil Hand	more foam and aroma than other lids, best flow rate	creaminess negated as compared to no lid
Robert Ford	aroma just less than no lid, favorite	
Steve Lee	balanced, similar to no lid, allows foam while drinking, best flow rate, better finish and balance, creamy	less aroma and intensity of flavor than no lid