



INTERNATIONAL COFFEE ORGANIZATION
ORGANIZACIÓN INTERNACIONAL DEL CAFÉ
ORGANIZAÇÃO INTERNACIONAL DO CAFÉ
ORGANISATION INTERNATIONALE DU CAFÉ

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31st meeting
20 September 2010
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Adding value to Robusta coffees

Background

The attached document has been received from the Coffee Quality Institute and contains information on Robusta cupping protocols, together with a list of participants at four Robusta workshops held in Uganda in 2009 and 2010 (Annex A); a Robusta Fine Coffee Cupping Form (Annex B), and the results of coffee cupping trials at a Robusta Fine Coffee workshop held from 8 to 11 June 2010 (Annex C).

Mr Ted Lingle of the Coffee Quality Institute will make a presentation on adding value to Robusta coffees to the PSCB at its meeting on 20 September 2010. A copy of his presentation will be distributed at the meeting.

Action

The PSCB is invited to note this document.

ROBUSTA CUPPING PROTOCOLS

Equipment necessary

Roasting Preparation	Environment	Cupping Preparation
Sample Roaster	Well lighted	Balance (Scale)
Agtron or other color reading device	Clean, no interfering aromas	Cupping glasses with lids
Grinder	Cupping tables	Cupping spoons
	Quiet	Hot water equipment
	Comfortable temperature	Forms and other paperwork
	Limited distractions (no phones, etc)	Pencils and clipboards

Cupping Glasses: The type of cupping glass recommended by UCDA is a 5 or 6 ounce Manhattan or “rocks” glass with thick walls. The cups should be clean with no apparent fragrance and used at room temperature. Lids for the glasses can be of any material.

Sample Preparation

Roasting:

- The sample should be roasted with 24 hours of cupping and allowed to rest for at least 8 hours.
- Roast Profile:
 - Robusta beans in general are considerably denser than most Arabica beans and present greater resistance to heat. For this reason the surface of Robusta whole beans need to reflect a considerably darker roast than Arabica whole beans in order to achieve similar flavor development and roast color after grinding.
 - **Robusta whole bean** roast color should be **medium to medium-dark**, not light to medium-light as is common for Arabica cupping roasts. On the M-Basic (Gourmet) Agtron scale, a **Robusta whole bean** reading of approximately 48 is needed to produce a **ground** M-Basic (Gourmet) Agtron reading of approximately 78 ground, +/- 1 point (Agtron/SCAA tile #45 for whole bean and Agtron/SCAA tile #75 for ground).

- Comparable color readings for ground Robusta would be approximately 54 on the Agrtron E10/E20 commercial scale; approximately 110 on the Probat scale, and approximately 115 on the Neotec scale. Cupping panel testing has suggested this lighter roast profile is the optimal ground roast color for Robusta cupping.
- Those accustomed to sample roasting Arabica should note that the first crack is not as pronounced and dramatic in Robusta as it is in Arabica. With Robusta the first crack seldom reaches a crescendo and the second crack also very subdued at its onset. Those who time their roast by the sound of the crack need to wait until the first crack has completely concluded before considering terminating the roast. If the roast is terminated a few moments (10 seconds or so) before the second crack, the optimum roast development for Robusta as determined by panel cupping should be achieved.
- The roast should be completed in no less than 9 minutes and no more than 14 minutes. Scorching or tipping should not be apparent.
- Sample should be immediately air-cooled (no water quenching).
- When the beans reach room temperature (approximately 75° F or 20° C), completed samples should then be stored in airtight containers or non-permeable bags until cupping to minimize exposure to air and prevent contamination.
- Samples should be stored in a cool dry place, but not refrigerated or frozen.

To determine measurement:

- The optimum ratio is 8.75 grams per 150 ml of water, as this conforms to the mid-point of the optimum balance recipes for the “Robusta” Golden Cup.
- Determine the volume of water in the selected cupping glass and adjust weight of coffee to this ratio within +/- .25 grams.

Cupping Preparation:

- Sample should be ground immediately prior to cupping, no more than 15 minutes before infusion with water. If this is not possible, samples should be covered and infused not more than 30 minutes after grinding.
- Samples should be weighed out AS WHOLE BEANS to the predetermined ratio (see above for ratio) for the appropriate cup fluid volume.
- Grind particle size should be slightly coarser than typically used for paper filter drip brewing, with 70% to 75% of the particles passing through a U.S. Standard size 20 mesh sieve.
- At least 5 cups from each sample should be prepared to evaluate sample uniformity.

- Each cup of sample should be ground by running a cleansing quantity of the sample through the grinder, and then grinding each cup's batch individually into the cupping glasses, ensuring that the whole and consistent quantity of sample gets deposited into each cup. A lid should be placed on each cup immediately after grinding.

Pouring:

- Water used for cupping should be clean and odor free, but not distilled or softened. Ideal Total Dissolve Solids are 125-175 ppm, but should not be less than 100 ppm or more than 250 ppm.
- The water should be freshly drawn and brought to approximately 200° F (93°C) at the time it is poured onto the ground coffee.
- The hot water should be poured directly onto the measured grounds in the cup to the rim of the cup, making sure to wet all of the grounds.
- As the coffee degasses, the “cap” may sink below the rim of the cup. When this occurs immediately pour additional water into the cup so that the cap again rises to the rim of the glass
- Allow the grinds to steep undisturbed for 4 minutes before evaluation.

Sample Evaluation

Sensory testing is done for three reasons:

- To determine the actual sensory differences between the samples
- To describe the flavor of the samples
- To determine the cupper’s preference for the samples

No single test can effectively address all of the above, but they do have common aspects. It is important for the evaluator to know the purpose of the test and how results will be used. ***The purpose of this cupping protocol is the determination of the cupper’s preference.*** The quality of specific flavor attributes is analysed, and then drawing on the cupper’s previous experience, each flavor attribute is rated on a numeric scale. The scores between samples can then be compared. Coffees that receive higher scores should be noticeably better than coffees that receive lower scores.

The Cupping Form provides a systematic means of recording 10 important flavor attributes for Robusta coffee: Fragrance/Aroma, Flavor, Aftertaste, Salt/Acid Aspect Ratio, Bitter/Sweet Aspect Ratio, Mouthfeel, Balance, Uniform Cups, Clean Cups, and Overall. Defects, both Taints and Faults, can also be recorded on the form. The specific flavor attributes are positive scores of quality reflecting a judgment rating of the cupper; the defects

are negative scores denoting unpleasant flavor sensations; the Overall score is based on the flavor experience of the individual cupper as a personal appraisal. These are rated on a 16-point scale representing levels of quality in quarter point increments between numeric values from 6 to 10. These levels are:

<u>Quality scale:</u>			
6.00 - Good	7.00 - Very Good	8.00 - Fine	9.00 - Outstanding
6.25	7.25	8.25	9.25
6.50	7.50	8.50	9.50
6.75	7.75	8.75	9.75

Theoretically the above scale ranges from a minimum value of 0 to a maximum value of 10 points. The lower end of the scale (.25 to 5.75) is applicable to commercial coffees, which are cupped primarily for the assessment of defect types and intensities.

Evaluation Procedure

Samples should first be visually inspected for roast color. This is marked on the left hand side of the form and may be used as a reference during the rating of specific flavor attributes, particularly if the sample is roasted too light or too dark. The sequence of rating each attribute is based on the flavor perception changes caused by decreasing temperature of the coffee as it cools:

Step #1 – Fragrance/Aroma

1. Within 15 minutes after the samples have been ground, the dry fragrance of the samples should be evaluated by lifting the lid and sniffing the dry grounds.
 - a. Both the type and intensity of the dry fragrance is rated on a scale of 1 to 6, and then marked on the *vertical* scale in the box provided.
 - b. The cupper should also note the type of dry fragrance on the small horizontal line. The type of dry fragrance will range from flowery to fruity to herbal.
2. After infusing with water, the crust is left unbroken for at least 3 minutes but not more than 5 minutes. Breaking of the crust is done by stirring 3 times, then allowing the foam to run down the back of the spoon while gently sniffing.
 - a. Both the type and intensity of the wet aroma is rated on a scale of 1 to 6, and then marked on the *vertical* scale in the box provided.
 - b. The cupper should also note the type of wet aroma on the small horizontal line. The type of dry fragrance will range from fruity to herbal to nut-like. In addition caramel and/or cocoa may be detected in the wet aroma.

3. The score of the dry fragrance and wet aroma are totaled and the combined Fragrance/Aroma score is then marked on the form, with the maximum score being 10.

Step #2 – Flavor, Aftertaste, Salt/Acid, Bitter/Sweet, and Mouthfeel

4. When the sample has cooled to 160° F (about 70° C, 8-10 minutes from infusion), evaluation of the liquor should begin. The liquor is aspirated into the mouth in such a way as to cover as much area as possible, especially the tongue and upper palate. Because the retro nasal vapors are at their maximum intensity at these elevated temperatures, Flavor and Aftertaste are rated at this point.
 - a. Flavor represents the coffee's principal character, the mid-range notes combining taste and aroma.
 - b. Aftertaste is defined as the length of positive flavor (taste and aroma qualities emanating from the back of the palate and remaining in the mouth after the coffee is expectorated or swallowed).
5. As the coffee continues to cool (160° F - 140° F), the Salt/Acid Aspect Ratio, Bitter/Sweet Aspect Ratio and Mouthfeel are rated next.
 - a. Salt/Acid Aspect Ratio is the relative balance between the salt sensations, principally driven by the higher potassium levels of Robusta coffees in contrast to the normally lower levels of organic acids, particularly citric acid. "Fine" Robusta coffees are noted for their lower levels of salt, producing a "harsh" taste in the cup and their higher levels of organic acids producing a "soft" taste in the cup. Low saltiness is rated on the vertical scale of 1 to 6, with the higher number representing a low saltiness perception. High acid is rated on the vertical scale of 1 to 6, with the higher number representing a perceived high level of acidity. The two scores are added together for the total Salt/Acid rating, with the maximum score of 10.
 - b. Bitter/Sweet Aspect Ratio is the relative balance between the bitter and sweet taste sensations, with the optimum result coming from a low bitterness and high sweet combination. Low bitterness is rated on the vertical scale of 1 to 6, with the higher number representing a low bitterness perception. High sweet is rated on the vertical scale of 1 to 6, with the higher number representing a high sweet perception. The two scores are added together for the total Bitter/Sweet rating, with the maximum score of 10.
 - c. Mouthfeel is a combination of weight and texture. The weight comes from micro-fine fiber particles swept off the ground up beans and the texture comes from the oils extracted from the coffee particles and suspended in the brew. Both the weight (heft on the tongue compared to pure water) and texture (slipperiness compared to pure water) are rated on the vertical scales from 1 to 6. The two scores are added together for the total Mouthfeel rating, with the maximum score of 10.

6. The cupper's preference for each of the attributes is evaluated at several different temperatures (2 or 3 times) as the sample cools. To rate the sample on the 16-point scale circle the appropriate tick-mark on the cupping form. If a change is made (if a sample gains or loses some of its perceived quality due to temperature changes), remark the horizontal scale and draw an arrow to indicate the direction of the final score.

Step #3 – Balance, Uniform Cups, and Clean Cups

7. As the brew approaches room temperature (below 100° F) Balance, Uniform Cups, and Clean Cups are evaluated.
 - a. Balance is the cupper's assessment of how well the Flavor, Aftertaste, Mouthfeel, and Bitter/Sweet Aspect Ratio fit together in a synergistic combination. All four attributes should be present in equal intensities in order to achieve "balance" in the cup. The greater the intensity, while still maintaining balance in the cup, the higher the rating.
 - b. Uniform Cups and Clean Cups are rated on a cup-by-cup basis. For these attributes, the cupper makes a judgment on each individual cup, awarding 2 points per cup for each Uniform cup and 2 points per cup for each Clean cup (10 points maximum score).

Step #4 – Overall and Total Score

8. Evaluation of the liquor should cease when the sample reaches 70° F (16° C) and the Overall score is determined by the cupper and given to the sample as "Cupper's Points" based on ALL of the combined attributes.
9. All of the scores from each of the ten attributes are then totaled and entered into the box on the right hand side of the form marked "Total Score."

Step #5 – Final Score

10. Once the Total Score has been calculated, points are deducted for defects in the following manner:
 - a. Taints are minor defects commonly found in the aromatic properties of the coffee. Each cup is evaluated and any cup in which a taint is found has 2 points deducted from the total score.
 - b. Faults are major defects commonly found in the taste properties of the coffee. Each cup is evaluated and any cup in which a fault is found has 4 points deducted from the total score.

11. The Final Score is calculated by deducting any taints or faults in any of the five cups and recorded in the box marked “Final Score.”

Individual Component Scores

On some of the positive attributes, there are two tick-mark scales. The *vertical* (up and down) scales are used to rank the *intensity* of the listed sensory component and are marked for the evaluator’s record. The *horizontal* (left to right) scales are used to rate the panelist’s *preference* of the particular component based upon their perception of the sample and experiential understanding of quality. The attribute score is recorded in the appropriate box on the cupping form.

Each of these attributes is described more fully as follows:

Fragrance/Aroma: The aromatic aspects include *Dry Fragrance* (defined as the smell of the ground coffee when still dry) and *Wet Aroma* (the smell of the coffee when infused with hot water). One can evaluate this at three distinct steps in the cupping process: (1) sniffing the grounds placed into the cup before pouring water onto the coffee; (2) sniffing the aromas released while breaking the crust; and (3) sniffing the aromas released as the coffee steeps. Specific aromas can be noted under “qualities” and the intensity of the dry fragrance, break, and wet aroma aspects noted on the 6-point vertical scales. The score finally given is calculated by summing the vertical scales and should reflect the preference of all three aspects of a sample’s Fragrance/Aroma.

- Enzymatic notes commonly found in Fine Robusta coffees include: Tea Rose, Lemon, Coffee Blossom, and Honey; while those commonly found in Commercial Robusta coffees include Potato and Garden Peas.
- Sugar Browning notes commonly found in Fine Robusta coffees include: Vanilla, Butter, Caramel, Cocoa and Walnuts; while those commonly found in Commercial Robusta coffees include Toasted Bread and Roasted Peanuts.
- Dry Distillation notes commonly found in Fine Robusta coffees include Malt; while those commonly found in Commercial Robusta coffees include Pepper, Cedar, and Pipe Tobacco.
- Aromatic Taints commonly found in Fine Robusta coffees include Coffee Pulp; while those commonly found in Commercial Robusta coffees include Earthy, Medicinal, Smoke, Rubber, and Straw.

Flavor: Flavor represents the coffee's principal character, the "mid-range" notes, in between the first impressions given by the coffee's first aroma and taste to its final aftertaste. It is a combined impression of all the gustatory (taste bud) sensations and retro nasal aromas that go

from the mouth to nose. The score given for Flavor should account for the intensity, quality and complexity of its combined taste and aroma, experienced when the coffee is slurped into the mouth vigorously so as to involve the entire palate in the evaluation.

- Flavor notes found in Fine Robusta coffees commonly include:
 - Fruit-like: cherry, black currant, raisin, raspberry, berry, dry fig, lemon, and prunes.
 - Nut-like: walnut, almond, and malt
 - Spice-like: clove, coriander and allspice
 - Sweet-like: molasses, syrupy, caramel, honey, dark chocolate, cocoa, and buttery
 - Overall: rounded, complex, complete, mellow, deep and delicate.
- Flavor notes found in Commercial Robusta coffees commonly include:
 - Vegetable-like: grassy, hay, grain-like, barley-like, legume, potato, pea-like, silage, jackfruit, popcorn, and biscuit-like
 - Phenol-like: medicinal, metallic, rubbery, smoky, burnt, woody
 - Astringent-like: uric, salty, briny, brackish
 - Overall: dull, lifeless, flat, uneven, neutral, harsh, soapy

Aftertaste: Aftertaste is defined as the length of positive flavor (taste and aroma) qualities emanating from the back of the palate and remaining after the coffee is expectorated or swallowed. If the aftertaste were short or unpleasant, a lower score would be given. In Robusta coffees it is often driven by the potassium level found in the coffee, with high levels resulting in *brackish* (high saltiness and displeasing aromas) aftertastes and with low levels resulting in *savory* (low saltiness and pleasing aromas) aftertastes.

Salt/Acid Aspect Ratio: the *Salt/Acid Aspect Ratio* is responsible for the pleasing and delicate taste that is derived from distinguishable acidity and sweetness in Robusta coffees, stemming from the presence of fruit acids and sugars. It is also recognized because of lower levels of potassium and caffeine that make the Robusta coffee tastes coarse or harsh are absent from “Fine” Robusta coffees. This attribute is comparable to the “strictly soft / strictly hard” categorization of Brazilian coffees. The noticeable perception of acidity is one of the striking taste differences between Fine Robusta and Commercial Robusta coffees.

Bitter/Sweet Aspect Ratio: Both *bitter* and *sweet* taste sensations are present in Robusta coffees. The bitter component stems principally from the caffeine and potassium levels present in the coffee, while the sweet component is derived from the fruit acids, chlorogenic acid, and sugars levels in the coffee. Fine Robusta coffees have a low bitter and high sweet aspect in their taste, which Commercial Robusta coffees have a high bitter and low sweet aspect in their taste. In determining the Bitter/Sweet Aspect Ratio Score, the cupper rates the relative bitterness on a scale of 1 to 6, giving the higher score to the lower perceived

bitterness, while at the same the cupper rates the relative sweetness on a scale of 1 to 6, giving the higher score to the higher perceived sweetness. The two scores are then added to determine the Bitter/Sweet score.

Mouthfeel: The quality of Mouthfeel is based upon the tactile feeling of the liquid in the mouth, especially as perceived between the tongue and roof of the mouth. Most samples with heavy Mouthfeel may also receive a high score in terms of quality due to the presence of brew colloids. Brew colloids are formed as the oils extracted from the ground coffee coagulate around the micro-fine bean fibers suspend in the brew. Mouthfeel has two distinct aspects: 1) weight and 2) texture.

Balance: How all the various aspects of Flavor, Aftertaste, Salt/Acid Aspect Ratio, Bitter/Sweet Aspect Ratio, and Mouthfeel of the sample work together and complement or contrast to each other is “Balance.” As the intensity of each of these attributes increases, it is more difficult for all the attributes to remain in balance. If each attribute increases equally in intensity, then the Balance score is high. If the sample is lacking in one or more attributes or if some attributes are overpowering, the Balance score would be reduced.

Uniform Cups: Uniform Cups refers to consistency of flavor of the different cups of the sample tasted. If a single sour, ferment, phenolic or other off-tasting bean is present in any of the cups, one or more of the cups will exhibit a different taste. This inconsistency in the flavor of the coffee is a very negative attribute. This type of inconsistency should be so distinct that the cupper can easily identify the off-cup in a triangulation with the other cups in the sample set. The rating of this attribute is calculated on a cup-by-cup basis. 2 points are awarded for each cup in the sample that is uniform (tastes like the other cups), with a maximum of 10 points if all 5 cups are the same.

Clean Cups: Clean Cups refers to a lack of interfering negative impressions from first ingestion to final aftertaste, a “transparency” of cup. In evaluating this attribute, notice the total flavor experience from the time of the initial ingestion to final swallowing or expectoration. If a single moldy, dirty, baggy or other off-tasting bean is present in any of the cups, one or more of the cups will exhibit a non-coffee taste. *Any non-coffee like tastes or aromas* will disqualify an individual cup. 2 points are awarded for each cup in the sample that is free from a non-coffee like taste or aroma.

Overall: The “overall” score attribute is meant to reflect the holistically integrated rating of the sample as perceived by the individual cupper. A sample with many highly pleasant attributes, but not quite “measuring up” to the cupper’s expectation would receive a lower rating. A coffee that met expectations as to its character and reflected particular origin flavor qualities would receive a high score. An exemplary example of preferred characteristics not

fully reflected in the individual score of the individual attributes might receive an even higher score. This is the step where the cuppers make their personal appraisal of the coffee. Good cuppers do not allow their personal preference for a coffee to interfere with the rating of the other flavor attributes of the sample.

Defects: Defects are negative or poor flavors that detract from the quality of the coffee. These are classified in 2 ways. A *taint* is an off-flavor that is noticeable, but not overwhelming, usually found in the aromatic aspects. A “taint” is given a “2” in intensity. A *fault* is an off-flavor, usually found in the taste aspects, that is either overwhelming or renders the sample unpalatable and is given an intensity rating of “4”. The defect must first be classified (as a taint or a fault), then described (“sour,” “rubbery,” “ferment,” “phenolic” for example) and the description written down. The number of cups in which the defect was found is then noted, and the intensity of the defect is recorded as either a 2 or 4. The defect score is multiplied by the number of cups in which it is found and subtracted from the total score in calculating the Final Score, following to directions on the cupping form.

Final Scoring

The Final Score is calculated by first summing the individual scores given for each of the primary attributes in the box marked “Total Score.” Defects are then subtracted from the “Total Score” to arrive at a “Final Score.” The following Scoring Key has proven to be a meaningful way to describe the range of coffee quality for the Final Score, with scores above 80 equating to Fine Robusta coffees.

Total Score	Quality Description	Classification
90-100	Outstanding	Very Fine
80-90	Fine	Fine
70-80	Very Good	Premium
60-70	Average	Usual Good Quality
50-60	Fair	Usual Good Quality
40-50	Fair	Commercial
< 40		Exchange Grade
< 30		Below Grade
< 20		Off Grade
< 10		Triage

Robusta Workshop Participants

<u>Name</u>	<u>Kampala 08/09</u>	<u>Accra 11/09</u>	<u>Kampala 03/10</u>	<u>Kampala 06/10</u>
<u>International</u>				
Ted Lingle	X			X
Manuel Diaz		X	X	X
Sunalini Menon	X			
Ken Davids	X			
Surrendra	X			X
Christine Garces			X	
Elliot Bensen		X		
Vanildo Pagio	X			
Joao Morales	X			
Javier Giraldo	X		X	X
Arthur Fiorott				X
Hendarto				X
Sabik Galindo Artunduaga				X
Charles Angebault				X
<u>Uganda</u>				
Doreen Rweihangwe	X	X	X	X
John Turyangyenda	X			
Edmond Kananura	X		X	X
Emmanuel Tumussigye	X	X	X	X
Rita Kyamuhangire	X		X	X
Vicent Balinda	X			X
Dick Wadada	X		X	
Clare Rwakatogoro	X		X	X
Conrad Adoko			X	
Rodgers Sali			X	
Fidel Bakomeza			X	X
Nathan Uringi	X	X	X	X
Enock Senyonge			X	
Agnes Bagonza			X	
Seninde Denis Richard			X	
Boaz Mugarnra			X	
Hakim Mufumbiro	X			
Faith Asaji				X
Ruth Nampiimo				X
Batte Godfrey				X
Godfrey Onono				X
Francis Olupot-Ogasi				X
Teopista Nakkungu				X

<u>Name</u>	<u>Kampala 08/09</u>	<u>Accra 11/09</u>	<u>Kampala 03/10</u>	<u>Kampala 06/10</u>
<u>Tanzania</u>				
<i>Ludovic Muta Bebwa</i>	X		X	
Desideri Nboya		X	X	
<u>Cameroon</u>				
Daniel Maioulou	X			
<u>Cote d' Ivoire</u>				
Kouakou Kouame Philippe		X		
Konan Remy		X		
Konan Kouame Sylvain		X		
<u>Gabon</u>				
Ntouna Kambangoye Jean		X		
Elinguji Michel		X		
Samuel Tetteh Lowor		X		
Obolio Liz Nadine		X		
Mengue Celia Ninon		X		
<u>Ghana</u>				
Charles Bruce-Tagoe		X		
Charles Mankatah		X		
William Azalekor		X		
Dorinda Kline		X		
Abraham Akpertey		X		
Prince Mensah		X		
Esther Anim-Kwapong		X		
Ellis Noble Nkrumah				
<u>Kenya</u>				
Agwanda Charles		X		
Noah Anthonz Phiri				
<u>Togo</u>				
Winga Tomtala		X		
Baba Kodjo Sena Agbeko		X		
Tamekloe M. Akoli		X		
Komian Wegbe		X		
<u>Zimbabwe</u>				
Emson Mandizvidza		X		



Robusta Fine Coffee Cupping Form

Quality scale:				
5.00 - Average	6.00 - Good	7.00 - Very Good	8.00 - Fine	9.00 - Outstanding
5.25	6.25	7.25	8.25	9.25
5.50	6.50	7.50	8.50	9.50
5.75	6.75	7.75	8.75	9.75

Name: _____

Date: _____ Session: _____

Sample #	Roast Level of Sample	Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Total Score <input type="text"/>
		Fragrance/Aroma		Flavor		Salt/Acid		Bitter/Sweet		Mouthfeel		Balance		Overall		
		6 7 8 9 10 Dry Character Break 6 6 3 3 1 1		6 7 8 9 10 Aftertaste 6 7 8 9 10 Brackish Savory		6 7 8 9 10 Low Salt Hi Acid 6 6 3 3 1 1		6 7 8 9 10 Low Bitter Hi Sweet 6 6 3 3 1 1		6 7 8 9 10 Rough Smooth Uniform Cups <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		6 7 8 9 10 Clean Cups <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Defects (subtract) Taint=2 # cups Intensity Fault=4 <input type="text"/> X <input type="text"/> = <input type="text"/>		
Notes:															Final Score <input type="text"/>	

Sample #	Roast Level of Sample	Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Total Score <input type="text"/>
		Fragrance/Aroma		Flavor		Salt/Acid		Bitter/Sweet		Mouthfeel		Balance		Overall		
		6 7 8 9 10 Dry Character Break 6 6 3 3 1 1		6 7 8 9 10 Aftertaste 6 7 8 9 10 Brackish Savory		6 7 8 9 10 Low Salt Hi Acid 6 6 3 3 1 1		6 7 8 9 10 Low Bitter Hi Sweet 6 6 3 3 1 1		6 7 8 9 10 Rough Smooth Uniform Cups <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		6 7 8 9 10 Clean Cups <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Defects (subtract) Taint=2 # cups Intensity Fault=4 <input type="text"/> X <input type="text"/> = <input type="text"/>		
Notes:															Final Score <input type="text"/>	

Sample #	Roast Level of Sample	Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Score: <input type="text"/>		Total Score <input type="text"/>
		Fragrance/Aroma		Flavor		Salt/Acid		Bitter/Sweet		Mouthfeel		Balance		Overall		
		6 7 8 9 10 Dry Character Break 6 6 3 3 1 1		6 7 8 9 10 Aftertaste 6 7 8 9 10 Brackish Savory		6 7 8 9 10 Low Salt Hi Acid 6 6 3 3 1 1		6 7 8 9 10 Low Bitter Hi Sweet 6 6 3 3 1 1		6 7 8 9 10 Rough Smooth Uniform Cups <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		6 7 8 9 10 Clean Cups <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Defects (subtract) Taint=2 # cups Intensity Fault=4 <input type="text"/> X <input type="text"/> = <input type="text"/>		
Notes:															Final Score <input type="text"/>	

ANNEX C

Robusta Fine Coffee Workshop

June 8 - 11, 2010

Results Coffee Cupping Trials

Training Round

Flight 1 - Vietnam - water polished

Fragrance / Aroma	6.79
Flavor	6.60
Aftertaste	6.68
Salt / Acid Balance	6.23
Bitter / Sweet Balance	6.19
Mouthfeel	7.06
Primary Attribute Balance	6.87
Uniform Cups	9.81
Clean Cups	9.81
Overall	<u>6.76</u>

Total: 72.80 **6th**

Flight 4 - Uganda - washed

Fragrance / Aroma	7.46
Flavor	7.37
Aftertaste	7.44
Salt / Acid Balance	7.45
Bitter / Sweet Balance	7.71
Mouthfeel	7.36
Primary Attribute Balance	7.61
Uniform Cups	9.91
Clean Cups	9.91
Overall	<u>7.65</u>

Total: 79.87 **1st**

Flight 2 - Brazil - organic, natural

Fragrance / Aroma	7.68
Flavor	7.31
Aftertaste	7.23
Salt / Acid Balance	7.42
Bitter / Sweet Balance	7.38
Mouthfeel	7.26
Primary Attribute Balance	7.42
Uniform Cups	9.91
Clean Cups	9.91
Overall	<u>7.45</u>

Total: 78.97 **2nd**

Flight 5 - India - washed

Fragrance / Aroma	7.15
Flavor	7.21
Aftertaste	7.24
Salt / Acid Balance	7.11
Bitter / Sweet Balance	7.31
Mouthfeel	7.12
Primary Attribute Balance	7.31
Uniform Cups	9.91
Clean Cups	10.00
Overall	<u>7.23</u>

Total: 77.59 **4th**

Flight 3 - Mexico, natural

Fragrance / Aroma	7.17
Flavor	7.06
Aftertaste	7.21
Salt / Acid Balance	7.21
Bitter / Sweet Balance	7.31
Mouthfeel	7.12
Primary Attribute Balance	7.06
Uniform Cups	9.71
Clean Cups	9.81
Overall	<u>7.12</u>

Total: 76.78 **5th**

Flight 6 - Indonesia - washed - Java

Fragrance / Aroma	7.13
Flavor	7.21
Aftertaste	7.17
Salt / Acid Balance	7.15
Bitter / Sweet Balance	7.23
Mouthfeel	7.23
Primary Attribute Balance	7.41
Uniform Cups	10.00
Clean Cups	9.91
Overall	<u>7.46</u>

Total: 77.90 **3rd**

Practice Round**Group A****Flight 1 - Uganda Masaka Screen #15**

Fragrance / Aroma	7.15
Flavor	7.00
Aftertaste	7.05
Salt / Acid Balance	6.84
Bitter / Sweet Balance	6.84
Mouthfeel	7.18
Primary Attribute Balance	7.13
Uniform Cups	9.90
Clean Cups	9.90
Overall	7.23

Total: 76.22 **5th**

Flight 4 - Indonesia - washed, Java

Fragrance / Aroma	6.95
Flavor	7.06
Aftertaste	7.04
Salt / Acid Balance	6.81
Bitter / Sweet Balance	7.24
Mouthfeel	7.19
Primary Attribute Balance	7.39
Uniform Cups	9.80
Clean Cups	9.80
Overall	7.23

Total: 76.51 **4th**

Flight 2 - Mexico - natural, Veracruz

Fragrance / Aroma	7.89
Flavor	7.55
Aftertaste	7.44
Salt / Acid Balance	7.45
Bitter / Sweet Balance	6.88
Mouthfeel	7.58
Primary Attribute Balance	7.53
Uniform Cups	10.00
Clean Cups	10.00
Overall	7.65

Total: 79.97 **1st**

Flight 5 - Vietnam - wet polished, VINACOF

Fragrance / Aroma	6.85
Flavor	6.89
Aftertaste	7.09
Salt / Acid Balance	6.74
Bitter / Sweet Balance	6.34
Mouthfeel	7.08
Primary Attribute Balance	7.23
Uniform Cups	9.90
Clean Cups	9.90
Overall	6.96

Total: 74.98 **6th**

Flight 3 - Brazil - natural, Spiritu Santo

Fragrance / Aroma	7.21
Flavor	7.35
Aftertaste	7.24
Salt / Acid Balance	7.21
Bitter / Sweet Balance	7.11
Mouthfeel	7.14
Primary Attribute Balance	7.40
Uniform Cups	9.90
Clean Cups	9.90
Overall	7.43

Total: 77.89 **2nd**

Flight 6 - India AA - washed, Allana Sans

Fragrance / Aroma	7.18
Flavor	7.21
Aftertaste	7.18
Salt / Acid Balance	7.05
Bitter / Sweet Balance	6.79
Mouthfeel	7.25
Primary Attribute Balance	7.31
Uniform Cups	9.70
Clean Cups	9.60
Overall	7.30

Total: 76.57 **3rd**

ANNEX C

Group B

Flight 1 - Cameroon

Fragrance / Aroma	6.69
Flavor	6.49
Aftertaste	6.62
Salt / Acid Balance	6.54
Bitter / Sweet Balance	6.44
Mouthfeel	6.75
Primary Attribute Balance	6.80
Uniform Cups	9.71
Clean Cups	9.62
Overall	<u>6.56</u>

Total: 72.22 **6th**

Flight 4 - India - washed

Fragrance / Aroma	7.10
Flavor	7.19
Aftertaste	7.25
Salt / Acid Balance	7.12
Bitter / Sweet Balance	7.48
Mouthfeel	7.36
Primary Attribute Balance	7.40
Uniform Cups	9.90
Clean Cups	9.90
Overall	<u>7.21</u>

Total: 77.91 **5th**

Flight 2 - Uganda - natural, Kasambya

Fragrance / Aroma	7.67
Flavor	7.54
Aftertaste	7.42
Salt / Acid Balance	7.39
Bitter / Sweet Balance	7.57
Mouthfeel	7.45
Primary Attribute Balance	7.55
Uniform Cups	9.62
Clean Cups	9.81
Overall	<u>7.54</u>

Total: 79.56 **2nd**

Flight 5 - Indonesia - washed, Bali

Fragrance / Aroma	7.33
Flavor	7.39
Aftertaste	7.46
Salt / Acid Balance	7.31
Bitter / Sweet Balance	7.42
Mouthfeel	7.45
Primary Attribute Balance	7.46
Uniform Cups	9.81
Clean Cups	9.81
Overall	<u>7.50</u>

Total: 78.94 **3rd**

Flight 3 - Uganda - washed, "The Pearl"

Fragrance / Aroma	7.56
Flavor	7.5
Aftertaste	7.43
Salt / Acid Balance	7.42
Bitter / Sweet Balance	7.32
Mouthfeel	7.53
Primary Attribute Balance	7.65
Uniform Cups	9.9
Clean Cups	9.81
Overall	<u>7.54</u>

Total: 79.66 **1st**

Flight 6 - Madagascar

Fragrance / Aroma	7.2
Flavor	7.36
Aftertaste	7.42
Salt / Acid Balance	7.49
Bitter / Sweet Balance	7.48
Mouthfeel	7.36
Primary Attribute Balance	7.58
Uniform Cups	9.81
Clean Cups	9.81
Overall	<u>7.42</u>

Total: 78.93 **4th**

Group C**Flight 1 - Brazil - washed, Espiritu Santo**

Fragrance / Aroma	7.25
Flavor	7.17
Aftertaste	7.08
Salt / Acid Balance	6.94
Bitter / Sweet Balance	6.92
Mouthfeel	7.29
Primary Attribute Balance	7.33
Uniform Cups	9.90
Clean Cups	9.81
Overall	<u>7.19</u>
Total:	76.88

4th**Flight 4 - Mexico - natural, Veracruz**

Fragrance / Aroma	7.71
Flavor	7.36
Aftertaste	7.29
Salt / Acid Balance	7.44
Bitter / Sweet Balance	7.49
Mouthfeel	7.49
Primary Attribute Balance	7.44
Uniform Cups	9.90
Clean Cups	9.81
Overall	<u>7.37</u>
Total:	79.30

3rd**Flight 2 - DR Congo - natural, Planoki**

Fragrance / Aroma	6.75
Flavor	6.35
Aftertaste	6.5
Salt / Acid Balance	6.44
Bitter / Sweet Balance	6.52
Mouthfeel	6.75
Primary Attribute Balance	6.5
Uniform Cups	8.00
Clean Cups	7.62
Overall	<u>6.46</u>
Total:	67.89

6th**Flight 5 - Indonesia - natural, Flores**

Fragrance / Aroma	7.42
Flavor	7.46
Aftertaste	7.49
Salt / Acid Balance	7.44
Bitter / Sweet Balance	7.54
Mouthfeel	7.54
Primary Attribute Balance	7.64
Uniform Cups	10.00
Clean Cups	10.00
Overall	<u>7.60</u>
Total:	80.13

1st**Flight 3 - India AA - washed, Kylagany**

Fragrance / Aroma	7.40
Flavor	7.42
Aftertaste	7.49
Salt / Acid Balance	7.32
Bitter / Sweet Balance	7.52
Mouthfeel	7.45
Primary Attribute Balance	7.52
Uniform Cups	9.81
Clean Cups	9.90
Overall	<u>7.50</u>
Total:	79.33

2nd**Flight 6 - Laos - natural**

Fragrance / Aroma	7.19
Flavor	7.66
Aftertaste	7.06
Salt / Acid Balance	6.98
Bitter / Sweet Balance	7.13
Mouthfeel	7.18
Primary Attribute Balance	7.14
Uniform Cups	9.81
Clean Cups	9.62
Overall	<u>7.14</u>
Total:	76.91

5th

ANNEX C

Competition Round Group A

Flight 1 - Togo - G2

Fragrance / Aroma	7.16
Flavor	7.13
Aftertaste	7.08
Salt / Acid Balance	6.84
Bitter / Sweet Balance	6.85
Mouthfeel	7.10
Primary Attribute Balance	7.08
Uniform Cups	9.50
Clean Cups	9.50
Overall	7.10
Total:	75.34

5th

Flight 4 - Mexico - washed, Chiapas

Fragrance / Aroma	7.81
Flavor	7.89
Aftertaste	7.78
Salt / Acid Balance	7.78
Bitter / Sweet Balance	7.96
Mouthfeel	7.85
Primary Attribute Balance	7.90
Uniform Cups	9.80
Clean Cups	10.00
Overall	8.05
Total:	82.82

1st

Flight 2 - Indonesia - washed, Java

Fragrance / Aroma	7.44
Flavor	7.45
Aftertaste	7.48
Salt / Acid Balance	7.61
Bitter / Sweet Balance	7.66
Mouthfeel	7.50
Primary Attribute Balance	7.66
Uniform Cups	9.90
Clean Cups	10.00
Overall	7.63
Total:	80.33

2nd

Flight 5 - Tanzania - washed, screen 18

Fragrance / Aroma	7.44
Flavor	7.50
Aftertaste	7.61
Salt / Acid Balance	7.38
Bitter / Sweet Balance	7.44
Mouthfeel	7.58
Primary Attribute Balance	7.60
Uniform Cups	9.80
Clean Cups	9.80
Overall	7.50
Total:	79.65

3rd

Flight 3 - Uganda - washed, Kecumeri

Fragrance / Aroma	7.34
Flavor	7.41
Aftertaste	7.26
Salt / Acid Balance	7.53
Bitter / Sweet Balance	7.44
Mouthfeel	7.46
Primary Attribute Balance	7.59
Uniform Cups	9.60
Clean Cups	9.70
Overall	7.56
Total:	78.89

4th

Flight 6 - Papua New Guinea - natural

Fragrance / Aroma	6.45
Flavor	6.24
Aftertaste	6.23
Salt / Acid Balance	6.36
Bitter / Sweet Balance	6.46
Mouthfeel	6.40
Primary Attribute Balance	6.31
Uniform Cups	8.80
Clean Cups	5.64
Overall	6.00
Total:	64.89

6th

Competition Round

Group B

Flight 1 - Indonesia - washed, Kyagalanyi

Fragrance / Aroma	6.76
Flavor	6.24
Aftertaste	6.24
Salt / Acid Balance	6.46
Bitter / Sweet Balance	6.33
Mouthfeel	6.62
Primary Attribute Balance	6.37
Uniform Cups	8.84
Clean Cups	7.89
Overall	6.07

Total: 67.82 **6th**

Flight 4 - DR Congo - natural

Fragrance / Aroma	7.13
Flavor	6.72
Aftertaste	6.75
Salt / Acid Balance	6.74
Bitter / Sweet Balance	6.89
Mouthfeel	6.92
Primary Attribute Balance	7.01
Uniform Cups	8.63
Clean Cups	8.32
Overall	6.80

Total: 71.91 **5th**

Flight 2 - India AA - washed, Kaapi Royale

Fragrance / Aroma	7.30
Flavor	7.61
Aftertaste	7.57
Salt / Acid Balance	7.62
Bitter / Sweet Balance	7.68
Mouthfeel	7.59
Primary Attribute Balance	7.66
Uniform Cups	9.87
Clean Cups	10.00
Overall	7.79

Total: 80.69 **2nd**

Flight 5 - Uganda - washed, Kawacom

Fragrance / Aroma	7.64
Flavor	7.61
Aftertaste	7.58
Salt / Acid Balance	7.41
Bitter / Sweet Balance	7.26
Mouthfeel	7.66
Primary Attribute Balance	7.64
Uniform Cups	9.79
Clean Cups	9.89
Overall	7.70

Total: 80.18 **3rd**

Flight 3 - Cameroon - washed, Foubot

Fragrance / Aroma	7.59
Flavor	7.62
Aftertaste	7.50
Salt / Acid Balance	7.37
Bitter / Sweet Balance	7.5
Mouthfeel	7.61
Primary Attribute Balance	7.76
Uniform Cups	9.68
Clean Cups	9.79
Overall	7.51

Total: 79.93 **4th**

Flight 6 - Brazil - pulped naturals, Spiritu Santo

Fragrance / Aroma	7.47
Flavor	7.59
Aftertaste	7.72
Salt / Acid Balance	7.78
Bitter / Sweet Balance	7.82
Mouthfeel	7.71
Primary Attribute Balance	7.86
Uniform Cups	9.89
Clean Cups	10.00
Overall	7.89

Total: 81.73 **1st**

ANNEX C

Competition Round Group C

Flight 1 - India AB - washed, Allana Sans

Fragrance / Aroma	7.14
Flavor	6.78
Aftertaste	6.79
Salt / Acid Balance	6.71
Bitter / Sweet Balance	6.71
Mouthfeel	6.85
Primary Attribute Balance	6.85
Uniform Cups	9.50
Clean Cups	9.50
Overall	6.75
Total:	73.58

6th

Flight 4 - Indonesia - washed, Java

Fragrance / Aroma	7.13
Flavor	7.10
Aftertaste	7.21
Salt / Acid Balance	7.24
Bitter / Sweet Balance	7.24
Mouthfeel	7.11
Primary Attribute Balance	7.13
Uniform Cups	9.70
Clean Cups	9.60
Overall	7.21
Total:	76.67

5th

Flight 2 - Mexico - washed, Chiapas

Fragrance / Aroma	7.25
Flavor	7.24
Aftertaste	7.31
Salt / Acid Balance	7.23
Bitter / Sweet Balance	7.34
Mouthfeel	7.23
Primary Attribute Balance	7.39
Uniform Cups	9.91
Clean Cups	9.91
Overall	7.46
Total:	78.27

4th

Flight 5 - India AA - washed, Allana Sans

Fragrance / Aroma	7.65
Flavor	7.41
Aftertaste	7.46
Salt / Acid Balance	7.31
Bitter / Sweet Balance	7.48
Mouthfeel	7.54
Primary Attribute Balance	7.55
Uniform Cups	9.70
Clean Cups	9.50
Overall	7.48
Total:	79.08

3rd

Flight 3 - Brazil - pulped natural, Spiritu Santos

Fragrance / Aroma	7.48
Flavor	7.56
Aftertaste	7.66
Salt / Acid Balance	7.43
Bitter / Sweet Balance	7.60
Mouthfeel	7.70
Primary Attribute Balance	7.70
Uniform Cups	9.90
Clean Cups	10.00
Overall	7.74
Total:	80.77

1st

Flight 6 - Uganda - natural, Kasambya

Fragrance / Aroma	7.65
Flavor	7.60
Aftertaste	7.51
Salt / Acid Balance	7.58
Bitter / Sweet Balance	7.61
Mouthfeel	7.59
Primary Attribute Balance	7.58
Uniform Cups	9.70
Clean Cups	9.80
Overall	7.70
Total:	80.32

2nd