



SAGE JUICER/BLENDER TRIALS 2013

**Client: Chris Travis
BRG Appliances Limited**

**Report First Issued: 13th December 2013
Report Re-issued: 24th June 2014**

**Author: Paul Adorno
(Inorganics & Food Composition Manager)**

**This report supersedes report issued
13th December 2013**



CONTENTS

	<i>Page No.</i>
1. PROCESS SUMMARY	3
1.1 Juicer Units	3
1.2 Purchase	3
1.3 Sample Treatment	3
1.4 Testing of Samples	7
2. RESULT SUMMARY	8
APPENDIX A	12
Photos	



1. PROCESS SUMMARY

1.1 Juicer Units

Four domestic juice extractors and blenders were delivered to NMI Port Melbourne from Sage. Upon receipt each unit was photographed (see Appendix C) and allocated an item number as follows;

Equipment Description	Equipment Number
Breville BJE410 Juicer	1
Hurom HU-500 Juicer	2
Vitamix 5200 Blender	3
Breville BBL910 Blender	4

Table 1: Equipment identification numbers

1.2 Purchase

Apples, oranges, celery, carrots, kale and baby spinach were purchased from Costco Docklands and “The Fresh Fruit World” in Niddrie.

1.3 Sample Treatment

All samples were allowed to equilibrate to laboratory room temperature (20°C) and prepared according to the client’s instructions. Instructions are outlined below.

ORANGES:

4x samples of oranges to be picked randomly from the bags purchased. Whole, peeled Oranges plus a section to create a 500g sample for each test.

Process according to the following:

Vitamix 5200 Blender

1. Place whole pieces Orange (500g) into Blender.
2. Process on Speed 10 for 30 sec.

Breville BBL900 Blender

1. Place whole pieces Orange (500g) into Blender.
2. Process on Speed 10 for 30 sec.

Breville BJE820 Juicer

1. Turn unit on to Speed 3
2. Place whole Orange(s) (500g) into Juicer.

Hurom HU-500

1. Cut Orange into 6ths (to fit feed tube).
2. Turn unit on.
3. Place pieces Orange (500g) into Juicer.



CARROTS:

4x samples of carrots to be picked randomly from the bags purchased. Lightly wash carrots with distilled water.

For 2x Juicer Tests – Take whole carrots to create a 500g sample for each test.

For 2x Blender Tests – Break each carrot into half to create a 500g sample for each test.

Process according to the following:

Vitamix 5200 Blender

1. Add 500g Carrots into Blender
2. Add 500ml distilled water into Blender
3. Process on Speed 10 for 30 sec.

Breville BBL900 Blender

1. Add 500g Carrots into Blender.
2. Add 500ml distilled water into Blender
3. Process on “Liquidfy” (top speed) for 30 sec.

Breville BJE820 Juicer

1. Turn unit on to Speed 5.
2. Place whole Carrots (500g) into Juicer.

Hurom HU-500

1. Cut Carrots into halves and cut into 5cm lengths (to fit feed tube).
2. Turn unit on.
3. Place Carrot pieces (500g) into Juicer.



BABY SPINACH:

4x samples of baby spinach to be picked randomly from the containers purchased. Lightly wash the baby spinach distilled water.

For 2x Juicer Tests – Take baby spinach to create a 500g sample for each test.

For 2x Blender Tests – Take baby spinach to create a 500g sample for each test.

Process according to the following:

Vitamix 5200 Blender

1. Add 500g baby spinach into Blender
2. Add 150ml distilled water into Blender
3. Process on Speed 10 for 30 sec.

Breville BBL900 Blender

1. Add 500g baby spinach into Blender.
2. Add 150ml distilled water into Blender
3. Process on “Liquidfy” (top speed) for 30 sec.

Breville BJE820 Juicer

1. Turn unit on to Speed 5.
2. Place baby spinach (500g) into Juicer.

Hurom HU-500

1. Turn unit on.
2. Place baby spinach (500g) into Juicer.

GREEN JUICE/GREEN SMOOTHIE:

Using the recipe listed below, process these ingredients according to the instructions:

BLENDERS (Vitamix 5200 & Breville BBL910) – Green Smoothie

- 1x Orange, peeled, halved, seeded (150g).
- 1x Celery Stalk, halved (60g)
- 1x Small Carrot, halved (100g)
- 1x Green Apple, cored, quartered (100g)
- 50g Kale, spine removed.
- ½ Cup (125ml) Water

1. Place all ingredients into the Blender in the order listed above, lightly squash ingredients down and secure lid.
2. Turn machine on and increase speed to maximum.
3. Blend for 60 seconds.



JUICERS (Breville BJE410 & Hurom HU-500) – Green Juice

Breville BJE410

50g Kale.
1x Orange, peeled (150g).
1x Celery Stalk (60g)
1x Small Carrot (100g)
1x Green Apple (100g)

* Note, although the ingredient list is exactly the same as the Blenders, it will require less preparation as the Juicer is able to process whole foods. Also, no water is to be added.

1. Turn Juicer on to “Low” speed for feeding Kale into Juicer.
2. Turn Juicer on to “High” speed for remainder of ingredients.
3. Feed ingredients into the Chute in the order listed above.
4. Turn off product.

Hurom HU-500

50g Kale.
1x Orange, peeled, halved, seeded (150g).
1x Celery Stalk, halved (60g)
1x Small Carrot, cut into 2cm pieces (100g)
1x Green Apple, cored, cut into 1/8s (100g)

* Note, due to smaller Feed Chute on Hurom some of the ingredients need to be prepared as instructed above. Also, no water is to be added.

1. Turn Juicer on
2. Feed ingredients into the Chute in the order listed above.
3. Turn off product.

Analysis of post juicing/blending samples was conducted at 0, 4, 24 hours. Samples were stored at laboratory room temperature between each round of tests. Tables 2-5 summarises results for all tests conducted.



1.4 Testing of Samples

All testing of samples was conducted in accordance to methods developed by NMI and accredited to NATA requirements.



2. RESULT SUMMARY

Oranges

	Temperature (°C)	Vitamin C (mg/100g)	α - carotene (ug/100g)	β - Carotene (ug/100g)	Calcium (mg/Kg)	Iron (mg/Kg)	Magnesium (mg/Kg)	Potassium (mg/Kg)
Equipment 1 0 hours	20.0	43	<5	83	110	<2	100	1600
Equipment 1 4 hours	N.A	41	<5	33	91	<2	95	1500
Equipment 1 24 hours	N.A	41	<5	60	82	<2	87	1400
Equipment 2 0 hours	20.5	41	<5	37	160	<2	100	1200
Equipment 2 4 hours	N.A	39	<5	48	210	<2	100	1300
Equipment 2 24 hours	N.A	40	<5	42	130	<2	99	1300
Equipment 3 0 hours	20.0	39	<5	89	420	<2	98	1500
Equipment 3 4 hours	N.A	33	<5	37	260	<2	89	1500
Equipment 3 24 hours	N.A	30	<5	49	290	<2	90	1400
Equipment 4 0 hours	20.0	46	<5	44	330	<2	99	1400
Equipment 4 4 hours	N.A	42	<5	55	340	<2	98	1400
Equipment 4 24 hours	N.A	40	<5	42	350	<2	100	1400

Table 2: Oranges results



Carrots

	Temperature (°C)	Vitamin C (mg/100g)	α - carotene (ug/100g)	β - Carotene (ug/100g)	Calcium (mg/Kg)	Iron (mg/Kg)	Magnesium (mg/Kg)	Potassium (mg/Kg)
Equipment 1 0 hours	20.5	2.7	8700	8800	88	3.0	84	2500
Equipment 1 4 hours	N.A	1.7	8300	7900	87	2.8	83	2500
Equipment 1 24 hours	N.A	<1	8700	8900	87	2.2	83	2500
Equipment 2 0 hours	20.9	3.3	8000	7800	240	2.9	98	2300
Equipment 2 4 hours	N.A	2	8000	7600	270	2.7	100	2400
Equipment 2 24 hours	N.A	<1	7900	7700	190	2.2	90	2300
Equipment 3 0 hours	35.0	1.6	5400	5500	230	2.3	77	1700
Equipment 3 4 hours	N.A	1	5200	4900	220	2.2	77	1700
Equipment 3 24 hours	N.A	<1	5700	5900	210	<2	75	1700
Equipment 4 0 hours	25.9	1.7	5200	4900	220	2.5	77	1700
Equipment 4 4 hours	N.A	1.1	5100	4400	230	2.5	78	1700
Equipment 4 24 hours	N.A	<1	5300	5000	210	<2	74	1700

Table 3: Carrots results



Spinach

	Temperature (°C)	Vitamin C (mg/100g)	α - carotene (ug/100g)	β - Carotene (ug/100g)	Calcium (mg/Kg)	Iron (mg/Kg)	Magnesium (mg/Kg)	Potassium (mg/Kg)
Equipment 1 0 hours	22.1	6.6	<5	2600	250	17	690	4900
Equipment 1 4 hours	N.A	4.1	<5	930	320	17	740	4900
Equipment 1 24 hours	N.A	<1	<5	2200	260	16	710	5100
Equipment 2 0 hours	22.2	4.8	<5	2300	320	16	730	4900
Equipment 2 4 hours	N.A	2.4	<5	990	350	16	680	4900
Equipment 2 24 hours	N.A	<1	<5	1700	300	16	710	5100
Equipment 3 0 hours	25.8	2.5	<5	1500	300	9.7	490	3200
Equipment 3 4 hours	N.A	1.7	<5	1000	330	9.8	490	3300
Equipment 3 24 hours	N.A	<1	<5	1600	280	9.1	490	3400
Equipment 4 0 hours	24.7	3.3	<5	1800	420	10	550	3600
Equipment 4 4 hours	N.A	1.9	<5	1100	410	11	540	3500
Equipment 4 24 hours	N.A	<1	<5	1600	330	10	510	3600

Table 4: Spinach results



Green Juice/Green Smoothie

	Temperature (°C)	Vitamin C (mg/100g)	α - carotene (ug/100g)	β - Carotene (ug/100g)	Calcium (mg/Kg)	Iron (mg/Kg)	Magnesium (mg/Kg)	Potassium (mg/Kg)
Equipment 1 0 hours	22.6	15	1900	2300	290	<2	110	2000
Equipment 1 4 hours	N.A	3.8	1100	1200	290	<2	110	1900
Equipment 1 24 hours	N.A	<1	1600	1800	300	2.1	110	2000
Equipment 2 0 hours	23.2	16	1200	1300	400	<2	120	2100
Equipment 2 4 hours	N.A	6.6	960	1000	400	<2	120	2100
Equipment 2 24 hours	N.A	<1	750	800	440	<2	120	2100
Equipment 3 0 hours	28.0	6.2	1100	1100	390	<2	110	1300
Equipment 3 4 hours	N.A	2.2	950	1100	410	<2	120	1400
Equipment 3 24 hours	N.A	<1	1000	1000	440	<2	120	1500
Equipment 4 0 hours	26.9	7.7	1000	1100	410	<2	120	1600
Equipment 4 4 hours	N.A	2.6	1100	1100	420	<2	120	1600
Equipment 4 24 hours	N.A	<1	1100	1000	450	<2	120	1700

Table 5: Green Juice/Green Smoothie results



APPENDIX A

Photos



Photo 1: Celery



Photo 2: Carrots



Photo 3: Oranges



Photo 4: Spinach



Photo 5: Apples



Photo 6: Kale



Photo 7: Smoothie Ingredients