CHAPTER FOUR
RESULTS AND PRESENTATION

This chapter presents the data analysis results and interpretations. Results were analysed statistically by the analysis of variance and difference between means separated using the Least Significance Difference (LSD) procedure. The non-parametric Friedman test was employed in determining the statistical differences among the product sensory attributes.

Table 4.3 (appendix) presents the ANOVA results for all the nutrient components, it show that there is a statistically significant difference between and within the sample means of nutrient and minerals. This is a criterion that is necessary in order to validate proceeding to perform the LSD test in order to ascertain which sample means significantly differ from the other. Since the condition that there exists a significant difference in the means of each sample, we proceeded to performing the Fisher's LSD test to separate difference between means of sample A, B, C and, D. The summary of the LSD result are presented in Table 4.4, 4.5, and 4.6 signifying 10%, 5% and 1% significance level respectively.

4.1 Nutrient content of complementary food formulated from different blends maize, banana and carrot flour.

The protein content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.1. Sample A has the highest mean, then sample D and Sample C has the least mean Protein content ranged from 9.46mg/100g to 10.95mg/100g. Sample A (10.95mg/100g) had the highest protein content while sample B (9.46mg/100g) had the lowest protein content. The LSD result obtained shows that all samples are significantly different at ($p<0.05$).

The ash content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.1. Sample A has the highest mean, then sample B and Sample D has the least mean. The ash content ranged from 2.4mg/100g to 0.87mg/100g. Sample A (2.4mg/100g had the highest protein content while sample B (0.87mg/100g) had the lowest ash content. The result obtained shows that sample A and D are significantly different at ($p<0.05$).

The moisture content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.1. Sample A has the highest mean of moisture content followed by sample B and C

while the least mean is sample D. The moisture content ranged from 7.33mg/100g to 5.0mg/100g. Sample A (7.33mg/100g) had the highest moisture content while sample D (5.0mg/100g) had the lowest moisture content. The LSD result obtained shows that sample A and B are significantly different at ($p<0.05$).

The fat content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.1. Sample A has the highest mean of fat content followed by sample B and C while the least mean is sample D. The fat content ranged from 0.31mg/100g to 0.27mg/100g. Sample A (0.31mg/100g) had the highest fat content while sample D (0.27mg/100g) had the lowest fat content. The LSD result obtained shows that sample A and B are significantly different at ($p<0.05$).

The crude fibre content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.1. Sample A of Protein has the highest mean, then sample D and Sample B while sample C has the least mean The crude fibre content ranged from 1.11mg/100g to 0.96mg/100g. Sample A (1.11mg/100g) and sample D (1.01mg/100g) had the highest fibre content while sample C (0.96mg/100g) had the lowest protein content. The LSD result obtained shows that all samples are significantly different at ($p<0.05$).

Sample D has the highest mean, then sample C and Sample B while sample A has the least mean. The carbohydrate content ranged from 88.92mg/100g to 77.90mg/100g. Sample D (88.92mg/100g) had the highest carbohydrate content while sample A (77.90mg/100g) had the lowest carbohydrate content. The LSD result obtained shows that only sample A is significantly different at ($p<0.05$).

Table 4.1. Proximate composition (%) of a complementary food formulated from different blends maize, banana and carrot flour.

Sample ID	% Substitution (M.S.C)	Protein	Ash	Moisture	Fat	Crude Fibre	CHO
Sample A	100:0:0	$10.945\pm.0.04^{a}$	2.4 ± 0.17^{a}	7.333 ± 0.58^{a}	0.310 ± 0.00^{a}	1.111 ± 0.00^{a}	77.90 ± 0.60^{a}
Sample B	85:10:5	9.645 ± 0.04^{b}	2 ± 0.17^{b}	6.333 ± 0.58^{b}	0.273 ± 0.00^{b}	0.979 ± 0.02^{b}	80.77 ± 0.60^{d}
Sample C	70:20:10	9.457 ± 0.02^{c}	1.9 ± 0.00^{b}	5.333 ± 0.57^{c}	0.268 ± 0.00^{c}	0.960 ± 0.00^{c}	82.08 ± 0.40^{d}
Sample D	55:30:15	9.938 ± 0.04^{d}	0.87 ± 0.05^{d}	5.000 ± 0.00^{c}	0.266 ± 0.00^{c}	1.009 ± 0.00^{d}	82.92 ± 0.02^{d}
LSD	NA	0.29^{bc}	0.40^{ab}	1.0^{abc}	0.005^{bc}	0.019^{bc}	0.837^{cd}

Values are mean ± S.D. Values with the same superscript in the same column do not differ significantly ($P \leq 0.05$). M:S:C – Fermented maize, banana and carrot flour

Sample A = (Control) 100% fermented corn

Sample B = 85% fermented corn, 10% carrot, 5% banana

Sample C = 70% fermented corn, 20% carrot, 10% banana

Sample D = 55% fermented corn, 30% carrot, 15% banana

4.2 Mineral content of complementary food formulated from different blends maize, banana and carrot flour.

The magnesium content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.2. Sample C has the highest mean, then sample C and Sample A has the least mean. The magnesium content ranged from 135.56mg/100g to 142.12.mg/100g. Sample C (142.12.mg/100g) had the highest magnesium content while sample B (135.56mg/100g)) had the lowest magnesium content. The LSD result obtained shows that all samples are significantly different at ($p<0.05$).

The Sodium (Na) content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.2. Sample C has the highest mean, then sample D and Sample A has the least mean. The sodium content ranged from 131.34mg/100g to 112.56mg/100g. Sample C (131.34mg/100g) had the highest sodium content while sample A (112.56mg/100g) had the lowest sodium content. The LSD result obtained shows that all samples are significantly different at ($p<0.05$).

The Calcium (Ca) content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.2. Sample C has the highest mean, then sample D and Sample A has the least mean. The calcium content ranged from 140.70mg/100g to 164.18mg/100g. Sample C (164.18mg/100g) had the highest calcium content while sample A (140.70mg/100g) had the lowest calcium content. The LSD result obtained shows that all samples are significantly different at ($p<0.05$).

The Potassium (K) content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.2. Sample C has the highest mean, then sample D and Sample A has the least mean. The calcium content ranged from 238.63/100g to 278.45mg/100g. Sample C (278.45mg /100g) had the highest calcium content while sample A (238.63/100g) had the lowest calcium content. The LSD result obtained shows that all samples are significantly different at ($p<0.05$).

The Zinc (Zn) content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.2. Sample C has the highest mean, then sample D and Sample A has the least

mean. The Zinc content ranged from 0.88mg/100g to 1.03mg/100g. Sample C (1.03mg/100g) had the highest zinc content while sample A (0.88mg/100g) had the lowest zinc content. The LSD result obtained shows that all samples are significantly different at ($p<0.05$).

The Iron (Fe) content of complementary food formulated from different blends maize, banana and carrot flour.is shown in Table 4.2. Sample C has the highest mean, then sample D and Sample A has the least mean. The Iron content ranged from 1.02mg/100g to 1.19mg100g. Sample C (1.02mg/100g) had the highest iron content while sample A (1.19mg/100g) had the lowest iron content. The LSD result obtained shows that all samples are significantly different at ($p<0.05$).

Table 4.2. Mineral Content (mg/kg) of a complementary food formulated from different blends maize, banana and carrot flour.

Sample ID	% Substitution (M.S.C)	Mg	Na	Ca	K	Zn	Fe
Sample A	100:0:0	135.562±0.01*	112.56±0.02*	140.70±0.03*	238.63±0.05*	0.88±0.00*	1.02±0.00*
Sample B	85:10:5	137.95±0.05*	123.54±0.00*	154.43±0.00*	261.91±0.00*	0.96±0.00*	1.12±0.00*
Sample C	70:20:10	142.12±0.00*	131.34±0.00*	164.18±0.00*	278.45±0.00*	1.03±0.00*	1.19±0.00*
Sample D	55:30:15	138.41±0.00*	125.44±0.00*	156.81±0.01[b]	265.94±0.00*	0.98±0.00*	1.14±0.00*
LSD	NA	0.31*	1.84*	2.31*	3.92*	0.01*	0.02*

Values are mean ± S.D. Values without superscript * in the same column do not differ significantly ($P \leq 0.05$)
M:S:C – Fermented maize, banana and carrot flour

Sample A = (Control) 100% fermented corn
Sample B = 85% fermented corn, 10% carrot, 5% banana
Sample C = 70% fermented corn, 20% carrot, 10% banana
Sample D = 55% fermented corn, 30% carrot, 15% banana

4.3 Sensory evaluation of complementary food formulated from different blends maize, carrot and banana flour.

The look characteristics ranged from 2.8 to 4.7. The look characteristics of this study show that Sample D (4.7) has the highest acceptance, while Sample B (2.8) has the lowest acceptance by the panelists. The result obtained were significant different at ($p<0.05$).

The taste characteristics of concentrate ranged from 5.0 to 2.4. The taste characteristics of this study show that Sample D (5.0) has the highest acceptance, while Sample B (2.4) has the lowest acceptance by the panelists. The result obtained were not significant different at ($p<0.05$).

The Feel characteristics of concentrate ranged from 2.8 to 4.4. The feel characteristics of this study show that Sample D (4.4) has the highest acceptance, while Sample A (2.8) and sample B (3.0) has the lowest acceptance by the panelists. The result obtained were not significant different at ($p<0.05$).

The perceive (aroma) characteristics of concentrate ranged from 2.5 to 4.5. The perceive characteristics of this study show that Sample C (3.9) and sample D (4.5) has the highest acceptance, while Sample B (2.5) has the lowest acceptance by the panelists. The result obtained were not significant different at ($p<0.05$).

The acceptability characteristics of concentrate ranged from 2.5 to 6.67. The characteristics of this study show that Sample D (6.67) has the highest acceptance, while Sample A (2.5) has the lot acceptance by the panelists. The result obtained were not significant different at ($p<0.05$).

Sample D has the highest overall acceptability (5.05) indicating that concentrate produced from this report can be adopted on a larger scale for consumer by both young and old.

Table 4.5: Sensory evaluation of concentrate from banana, carrot and maize

SAMPLE	LOOK	TASTE	FEEL	PERCEIVE	OVERALL ACCEPTABILITY
A	3.2^{a} ±1.13	2.7^{a} ±1.67	2.8^{a} ±1.14	2.8^{b} ±2.0	2.5^{c}±1.67
B	2.8^{b} ±1.87	2.4^{b} ±2.14	3.0^{b} ±0.94	2.5^{a} ±1.36	3.2^{b}±2.14
C	4.1^{c} ±2.02	4.4^{c} ±2.07	3.3^{ab} ±0.99	3.9^{a} ±1.86	6.0^{a}±2.20
D	4.7^{c}±2.87	5.0^{d}±1.63	4.4^{d}±0.67	4.5^{ac}±2.52	6.67^{a}±2.34

Values are mean ± S.D. Means with same superscript across a column are not significantly different at $p<0.05$

Sample A = (Control) 100% fermented corn

Sample B = 85% fermented corn, 10% carrot, 5% banana

Sample C = 70% fermented corn, 20% carrot, 10% banana

Sample D = 55% fermented corn, 30% carrot, 15% banana

APPENDIX

Table 4.1 Descriptive Statistics

SAMPLE		PROTEIN	ASH	MOISTURE	FAT	CRUDE_FIBRE	CHO
SAMPLE A	Mean	10.945310	2.4000	7.3333	.3098899	1.11119899	77.90026782
	N	3	3	3	3	3	3
	Std. Deviation	.0437800	.17321	.57735	.00123952	.004444670	.633621800
SAMPLE B	Mean	9.645009	2.0000	6.3333	.2730750	.97918877	80.76939356
	N	3	3	3	3	3	3
	Std. Deviation	.0266309	.00000	.57735	.00075399	.002703646	.607342035
SAMPLE C	Mean	9.456750	1.9000	5.3333	.2677449	.96007614	82.08209562
	N	3	3	3	3	3	3
	Std. Deviation	.0437810	.17321	.57735	.00123955	.004444771	.407161091
SAMPLE D	Mean	9.938344	.8667	5.0000	.2660632	1.00896893	82.91995718
	N	3	3	3	3	3	3
	Std. Deviation	.0437810	.05774	.00000	.00120781	.004444772	.028893539
Total	Mean	9.996353	1.7917	6.0000	.2791932	1.01485821	80.91792855
	N	12	12	12	12	12	12
	Std. Deviation	.6006370	.60069	1.04447	.01873192	.060978381	2.030430752

Table 4.2 Descriptive Statistics of Minerals

SAMPLE		MAGNESIUM	SODIUM	CALCIUM	POTASSIUM	ZINC	IRON
SAMPLE A	Mean	135.56167	112.56033	140.700417	238.627907	.87800572	1.02095540
	N	3	3	3	3	3	3
	Std. Deviation	.016921	.024338	.0304224	.0515963	.000189843	.000220752
SAMPLE B	Mean	137.95733	123.54367	154.429583	261.912573	.96367915	1.12057748
	N	3	3	3	3	3	3
	Std. Deviation	.052253	.000577	.0007217	.0012240	.000004503	.000005237
SAMPLE C	Mean	142.11500	131.34200	164.177500	278.445040	1.02450858	1.19131066
	N	3	3	3	3	3	3
	Std. Deviation	.003000	.001732	.0021651	.0036719	.000013511	.000015710
SAMPLE D	Mean	138.40900	125.44433	156.805417	265.941987	.97850494	1.13781708
	N	3	3	3	3	3	3
	Std. Deviation	.038314	.009609	.0120113	.0203711	.000074953	.000087157

Total	Mean	138.51075	123.22258	154.028229	261.231877	.96117460	1.11766515
	N	12	12	12	12	12	12
	Std. Deviation	2.449898	7.096380	8.8704749	15.0443254	.055353977	.064366258

Table 4.3 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PROTEIN	Between Groups	3.955	3	1.318	816.478	.000
	Within Groups	.013	8	.002		
	Total	3.968	11			
ASH	Between Groups	3.843	3	1.281	80.895	.000
	Within Groups	.127	8	.016		
	Total	3.969	11			
MOISTURE	Between Groups	10.000	3	3.333	13.333	.002
	Within Groups	2.000	8	.250		
	Total	12.000	11			
FAT	Between Groups	.004	3	.001	1006.371	.000
	Within Groups	.000	8	.000		
	Total	.004	11			
CRUDE_FIBRE	Between Groups	.041	3	.014	816.478	.000
	Within Groups	.000	8	.000		
	Total	.041	11			
CHO	Between Groups	43.475	3	14.492	61.867	.000
	Within Groups	1.874	8	.234		
	Total	45.349	11			

Table 4.4 Post Hoc Tests

Multiple Comparisons

LSD

Dependent Variable	(I) SAMPLE	(J) SAMPLE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
PROTEIN	SAMPLE A	SAMPLE B	1.3003007*	.0328112	.000	1.224638	1.375963
		SAMPLE C	1.4885600*	.0328112	.000	1.412897	1.564223
		SAMPLE D	1.0069660*	.0328112	.000	.931303	1.082629
	SAMPLE B	SAMPLE A	-1.3003007*	.0328112	.000	-1.375963	-1.224638
		SAMPLE C	.1882593*	.0328112	.000	.112597	.263922
		SAMPLE D	-.2933347*	.0328112	.000	-.368997	-.217672
	SAMPLE C	SAMPLE A	-1.4885600*	.0328112	.000	-1.564223	-1.412897
		SAMPLE B	-.1882593*	.0328112	.000	-.263922	-.112597
		SAMPLE D	-.4815940*	.0328112	.000	-.557257	-.405931
	SAMPLE D	SAMPLE A	-1.0069660*	.0328112	.000	-1.082629	-.931303

		SAMPLE B	.2933347*	.0328112	.000	.217672	.368997
		SAMPLE C	.4815940*	.0328112	.000	.405931	.557257
ASH	SAMPLE A	SAMPLE B	.40000*	.10274	.005	.1631	.6369
		SAMPLE C	.50000*	.10274	.001	.2631	.7369
		SAMPLE D	1.53333*	.10274	.000	1.2964	1.7703
	SAMPLE B	SAMPLE A	-.40000*	.10274	.005	-.6369	-.1631
		SAMPLE C	.10000	.10274	.359	-.1369	.3369
		SAMPLE D	1.13333*	.10274	.000	.8964	1.3703
	SAMPLE C	SAMPLE A	-.50000*	.10274	.001	-.7369	-.2631
		SAMPLE B	-.10000	.10274	.359	-.3369	.1369
		SAMPLE D	1.03333*	.10274	.000	.7964	1.2703
	SAMPLE D	SAMPLE A	-1.53333*	.10274	.000	-1.7703	-1.2964
		SAMPLE B	-1.13333*	.10274	.000	-1.3703	-.8964
		SAMPLE C	-1.03333*	.10274	.000	-1.2703	-.7964
MOISTURE	SAMPLE A	SAMPLE B	1.00000*	.40825	.040	.0586	1.9414
		SAMPLE C	2.00000*	.40825	.001	1.0586	2.9414
		SAMPLE D	2.33333*	.40825	.000	1.3919	3.2748
	SAMPLE B	SAMPLE A	-1.00000*	.40825	.040	-1.9414	-.0586
		SAMPLE C	1.00000*	.40825	.040	.0586	1.9414
		SAMPLE D	1.33333*	.40825	.011	.3919	2.2748
	SAMPLE C	SAMPLE A	-2.00000*	.40825	.001	-2.9414	-1.0586
		SAMPLE B	-1.00000*	.40825	.040	-1.9414	-.0586
		SAMPLE D	.33333	.40825	.438	-.6081	1.2748
	SAMPLE D	SAMPLE A	-2.33333*	.40825	.000	-3.2748	-1.3919
		SAMPLE B	-1.33333*	.40825	.011	-2.2748	-.3919
		SAMPLE C	-.33333	.40825	.438	-1.2748	.6081
FAT	SAMPLE A	SAMPLE B	.03681485*	.00092197	.000	.0346888	.0389409
		SAMPLE C	.04214496*	.00092197	.000	.0400189	.0442710
		SAMPLE D	.04382665*	.00092197	.000	.0417006	.0459527
	SAMPLE B	SAMPLE A	-.03681485*	.00092197	.000	-.0389409	-.0346888
		SAMPLE C	.00533011*	.00092197	.000	.0032040	.0074562
		SAMPLE D	.00701179*	.00092197	.000	.0048857	.0091379
	SAMPLE C	SAMPLE A	-.04214496*	.00092197	.000	-.0442710	-.0400189
		SAMPLE B	-.00533011*	.00092197	.000	-.0074562	-.0032040
		SAMPLE D	.00168169	.00092197	.106	-.0004444	.0038078
	SAMPLE D	SAMPLE A	-.04382665*	.00092197	.000	-.0459527	-.0417006
		SAMPLE B	-.00701179*	.00092197	.000	-.0091379	-.0048857

		SAMPLE C	-.00168169	.00092197	.106	-.0038078	.0004444
CRUDE_FIBRE	SAMPLE A	SAMPLE B	.132010220*	.003331086	.000	.12432872	.13969172
		SAMPLE C	.151122843*	.003331086	.000	.14344135	.15880434
		SAMPLE D	.102230051*	.003331086	.000	.09454855	.10991155
	SAMPLE B	SAMPLE A	-.132010220*	.003331086	.000	-.13969172	-.12432872
		SAMPLE C	.019112623*	.003331086	.000	.01143113	.02679412
		SAMPLE D	-.029780169*	.003331086	.000	-.03746167	-.02209867
	SAMPLE C	SAMPLE A	-.151122843*	.003331086	.000	-.15880434	-.14344135
		SAMPLE B	-.019112623*	.003331086	.000	-.02679412	-.01143113
		SAMPLE D	-.048892792*	.003331086	.000	-.05657429	-.04121129
	SAMPLE D	SAMPLE A	-.102230051*	.003331086	.000	-.10991155	-.09454855
		SAMPLE B	.029780169*	.003331086	.000	.02209867	.03746167
		SAMPLE C	.048892792*	.003331086	.000	.04121129	.05657429
CHO	SAMPLE A	SAMPLE B	-2.86912574*	.395169989	.000	-3.78038937	-1.95786211
		SAMPLE C	-4.18187800*	.395169989	.000	-5.09309143	-3.27056417
		SAMPLE D	-5.01968936*	.395169989	.000	-5.93095299	-4.10842573
	SAMPLE B	SAMPLE A	2.8691250*	.395169989	.000	1.95786211	3.78038937
		SAMPLE C	-1.31270260*	.395169989	.011	-2.22396569	-.40143843
		SAMPLE D	-2.15056620*	.395169989	.001	-3.06182725	-1.23929999
	SAMPLE C	SAMPLE A	4.18182780*	.395169989	.000	3.27056417	5.09309143
		SAMPLE B	1.31270206*	.395169989	.011	.40143843	2.22396569
		SAMPLE D	-.837861560	.395169989	.067	-1.74912519	.07340207
	SAMPLE D	SAMPLE A	5.01968936*	.395169989	.000	4.10842573	5.93095299
		SAMPLE B	2.15056362*	.395169989	.001	1.23929999	3.06182725
		SAMPLE C	.837861560	.395169989	.067	-.07340207	1.74912519

*. The mean difference is significant at the 0.05 level.

(Table 4.5) Post Hoc Tests

Multiple Comparisons

LSD

Dependent Variable	(I) SAMPLE	(J) SAMPLE	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
						Lower Bound	Upper Bound
PROTEIN	SAMPLE A	SAMPLE B	1.3003007*	.0328112	.000	1.190206	1.410395
		SAMPLE C	1.4885600*	.0328112	.000	1.378466	1.598654

		SAMPLE D	1.0069660*	.0328112	.000	.896872	1.117060
	SAMPLE B	SAMPLE A	-1.3003007*	.0328112	.000	-1.410395	-1.190206
		SAMPLE C	.1882593*	.0328112	.000	.078165	.298354
		SAMPLE D	-.2933347*	.0328112	.000	-.403429	-.183240
	SAMPLE C	SAMPLE A	-1.4885600*	.0328112	.000	-1.598654	-1.378466
		SAMPLE B	-.1882593*	.0328112	.000	-.298354	-.078165
		SAMPLE D	-.4815940*	.0328112	.000	-.591688	-.371500
	SAMPLE D	SAMPLE A	-1.0069660*	.0328112	.000	-1.117060	-.896872
		SAMPLE B	.2933347*	.0328112	.000	.183240	.403429
		SAMPLE C	.4815940*	.0328112	.000	.371500	.591688
ASH	SAMPLE A	SAMPLE B	.40000*	.10274	.005	.0553	.7447
		SAMPLE C	.50000*	.10274	.001	.1553	.8447
		SAMPLE D	1.53333*	.10274	.000	1.1886	1.8781
	SAMPLE B	SAMPLE A	-.40000*	.10274	.005	-.7447	-.0553
		SAMPLE C	.10000	.10274	.359	-.2447	.4447
		SAMPLE D	1.13333*	.10274	.000	.7886	1.4781
	SAMPLE C	SAMPLE A	-.50000*	.10274	.001	-.8447	-.1553
		SAMPLE B	-.10000	.10274	.359	-.4447	.2447
		SAMPLE D	1.03333*	.10274	.000	.6886	1.3781
	SAMPLE D	SAMPLE A	-1.53333*	.10274	.000	-1.8781	-1.1886
		SAMPLE B	-1.13333*	.10274	.000	-1.4781	-.7886
		SAMPLE C	-1.03333*	.10274	.000	-1.3781	-.6886
MOISTURE	SAMPLE A	SAMPLE B	1.00000	.40825	.040	-.3698	2.3698
		SAMPLE C	2.00000*	.40825	.001	.6302	3.3698
		SAMPLE D	2.33333*	.40825	.000	.9635	3.7032
	SAMPLE B	SAMPLE A	-1.00000	.40825	.040	-2.3698	.3698
		SAMPLE C	1.00000	.40825	.040	-.3698	2.3698
		SAMPLE D	1.33333	.40825	.011	-.0365	2.7032
	SAMPLE C	SAMPLE A	-2.00000*	.40825	.001	-3.3698	-.6302
		SAMPLE B	-1.00000	.40825	.040	-2.3698	.3698
		SAMPLE D	.33333	.40825	.438	-1.0365	1.7032
	SAMPLE D	SAMPLE A	-2.33333*	.40825	.000	-3.7032	-.9635
		SAMPLE B	-1.33333	.40825	.011	-2.7032	.0365
		SAMPLE C	-.33333	.40825	.438	-1.7032	1.0365
FAT	SAMPLE A	SAMPLE B	.03681485*	.00092197	.000	.0337213	.0399084
		SAMPLE C	.04214496*	.00092197	.000	.0390514	.0452385
		SAMPLE D	.04382665*	.00092197	.000	.0407331	.0469202

	SAMPLE B	SAMPLE A	-.03681485*	.00092197	.000	-.0399084	-.0337213
		SAMPLE C	.00533011*	.00092197	.000	.0022365	.0084237
		SAMPLE D	.00701179*	.00092197	.000	.0039182	.0101054
	SAMPLE C	SAMPLE A	-.04214496*	.00092197	.000	-.0452385	-.0390514
		SAMPLE B	-.00533011*	.00092197	.000	-.0084237	-.0022365
		SAMPLE D	.00168169	.00092197	.106	-.0014119	.0047753
	SAMPLE D	SAMPLE A	-.04382665*	.00092197	.000	-.0469202	-.0407331
		SAMPLE B	-.00701179*	.00092197	.000	-.0101054	-.0039182
		SAMPLE C	-.00168169	.00092197	.106	-.0047753	.0014119
CRUDE_FIBRE	SAMPLE A	SAMPLE B	.132010220*	.003331086	.000	.12083314	.14318730
		SAMPLE C	.151122843*	.003331086	.000	.13994576	.16229992
		SAMPLE D	.102230051*	.003331086	.000	.09105297	.11340713
	SAMPLE B	SAMPLE A	-.132010220*	.003331086	.000	-.14318730	-.12083314
		SAMPLE C	.019112623*	.003331086	.000	.00793554	.03028970
		SAMPLE D	-.029780169*	.003331086	.000	-.04095725	-.01860309
	SAMPLE C	SAMPLE A	-.151122843*	.003331086	.000	-.16229992	-.13994576
		SAMPLE B	-.019112623*	.003331086	.000	-.03028970	-.00793554
		SAMPLE D	-.048892792*	.003331086	.000	-.06006987	-.03771571
	SAMPLE D	SAMPLE A	-.102230051*	.003331086	.000	-.11340713	-.09105297
		SAMPLE B	.029780169*	.003331086	.000	.01860309	.04095725
		SAMPLE C	.048892792*	.003331086	.000	.03771571	.06006987
CHO	SAMPLE A	SAMPLE B	-2.86912574*	.395169989	.000	-4.19507412	-1.54317736
		SAMPLE C	-4.18182780*	.395169989	.000	-5.50777618	-2.85587942
		SAMPLE D	-5.01968936*	.395169989	.000	-6.34563774	-3.69374098
	SAMPLE B	SAMPLE A	2.86912574*	.395169989	.000	1.54317736	4.19507412
		SAMPLE C	-1.31270206	.395169989	.011	-2.63865044	.01324632
		SAMPLE D	-2.15056362*	.395169989	.001	-3.47651200	-.82461524
	SAMPLE C	SAMPLE A	4.18182780*	.395169989	.000	2.85587942	5.50777618
		SAMPLE B	1.31270206	.395169989	.011	-.01324632	2.63865044
		SAMPLE D	-.837861560	.395169989	.067	-2.16380994	.48808682
	SAMPLE D	SAMPLE A	5.01968936*	.395169989	.000	3.69374098	6.34563774
		SAMPLE B	2.15056362*	.395169989	.001	.82461524	3.47651200
		SAMPLE C	.837861560	.395169989	.067	-.48808682	2.16380994

*. The mean difference is significant at the 0.01 level.

Table 4. 6 Post Hoc Tests

Multiple Comparisons

LSD

Dependent Variable	(I) SAMPLE	(J) SAMPLE	Mean Difference (I-J)	Std. Error	Sig.	99.9% Confidence Interval	
						Lower Bound	Upper Bound
PROTEIN	SAMPLE A	SAMPLE B	1.3003007*	.0328112	.000	1.134889	1.465712
		SAMPLE C	1.4885600*	.0328112	.000	1.323149	1.653971
		SAMPLE D	1.0069660*	.0328112	.000	.841555	1.172377
	SAMPLE B	SAMPLE A	-1.3003007*	.0328112	.000	-1.465712	-1.134889
		SAMPLE C	.1882593*	.0328112	.000	.022848	.353671
		SAMPLE D	-.2933347*	.0328112	.000	-.458746	-.127923
	SAMPLE C	SAMPLE A	-1.4885600*	.0328112	.000	-1.653971	-1.323149
		SAMPLE B	-.1882593*	.0328112	.000	-.353671	-.022848
		SAMPLE D	-.4815940*	.0328112	.000	-.647005	-.316183
	SAMPLE D	SAMPLE A	-1.0069660*	.0328112	.000	-1.172377	-.841555
		SAMPLE B	.2933347*	.0328112	.000	.127923	.458746
		SAMPLE C	.4815940*	.0328112	.000	.316183	.647005
ASH	SAMPLE A	SAMPLE B	.40000	.10274	.005	-.1179	.9179
		SAMPLE C	.50000	.10274	.001	-.0179	1.0179
		SAMPLE D	1.53333*	.10274	.000	1.0154	2.0513
	SAMPLE B	SAMPLE A	-.40000	.10274	.005	-.9179	.1179
		SAMPLE C	.10000	.10274	.359	-.4179	.6179
		SAMPLE D	1.13333*	.10274	.000	.6154	1.6513
	SAMPLE C	SAMPLE A	-.50000	.10274	.001	-1.0179	.0179
		SAMPLE B	-.10000	.10274	.359	-.6179	.4179
		SAMPLE D	1.03333*	.10274	.000	.5154	1.5513
	SAMPLE D	SAMPLE A	-1.53333*	.10274	.000	-2.0513	-1.0154
		SAMPLE B	-1.13333*	.10274	.000	-1.6513	-.6154
		SAMPLE C	-1.03333*	.10274	.000	-1.5513	-.5154
MOISTURE	SAMPLE A	SAMPLE B	1.00000	.40825	.040	-1.0581	3.0581
		SAMPLE C	2.00000	.40825	.001	-.0581	4.0581
		SAMPLE D	2.33333*	.40825	.000	.2752	4.3914
	SAMPLE B	SAMPLE A	-1.00000	.40825	.040	-3.0581	1.0581
		SAMPLE C	1.00000	.40825	.040	-1.0581	3.0581
		SAMPLE D	1.33333	.40825	.011	-.7248	3.3914
	SAMPLE C	SAMPLE A	-2.00000	.40825	.001	-4.0581	.0581

		SAMPLE B	-1.00000	.40825	.040	-3.0581	1.0581
		SAMPLE D	.33333	.40825	.438	-1.7248	2.3914
	SAMPLE D	SAMPLE A	-2.33333*	.40825	.000	-4.3914	-.2752
		SAMPLE B	-1.33333	.40825	.011	-3.3914	.7248
		SAMPLE C	-.33333	.40825	.438	-2.3914	1.7248
FAT	SAMPLE A	SAMPLE B	.03681485*	.00092197	.000	.0321669	.0414628
		SAMPLE C	.04214496*	.00092197	.000	.0374970	.0467929
		SAMPLE D	.04382665*	.00092197	.000	.0391787	.0484746
	SAMPLE B	SAMPLE A	-.03681485*	.00092197	.000	-.0414628	-.0321669
		SAMPLE C	.00533011*	.00092197	.000	.0006822	.0099781
		SAMPLE D	.00701179*	.00092197	.000	.0023638	.0116597
	SAMPLE C	SAMPLE A	-.04214496*	.00092197	.000	-.0467929	-.0374970
		SAMPLE B	-.00533011*	.00092197	.000	-.0099781	-.0006822
		SAMPLE D	.00168169	.00092197	.106	-.0029663	.0063296
	SAMPLE D	SAMPLE A	-.04382665*	.00092197	.000	-.0484746	-.0391787
		SAMPLE B	-.00701179*	.00092197	.000	-.0116597	-.0023638
		SAMPLE C	-.00168169	.00092197	.106	-.0063296	.0029663
CRUDE_FIBRE	SAMPLE A	SAMPLE B	.132010220*	.003331086	.000	.11521720	.14880324
		SAMPLE C	.151122843*	.003331086	.000	.13432982	.16791586
		SAMPLE D	.102230051*	.003331086	.000	.08543703	.11902307
	SAMPLE B	SAMPLE A	-.132010220*	.003331086	.000	-.14880324	-.11521720
		SAMPLE C	.019112623*	.003331086	.000	.00231960	.03590564
		SAMPLE D	-.029780169*	.003331086	.000	-.04657319	-.01298715
	SAMPLE C	SAMPLE A	-.151122843*	.003331086	.000	-.16791586	-.13432982
		SAMPLE B	-.019112623*	.003331086	.000	-.03590564	-.00231960
		SAMPLE D	-.048892792*	.003331086	.000	-.06568581	-.03209977
	SAMPLE D	SAMPLE A	-.102230051*	.003331086	.000	-.11902307	-.08543703
		SAMPLE B	.029780169*	.003331086	.000	.01298715	.04657319
		SAMPLE C	.048892792*	.003331086	.000	.03209977	.06568581
CHO	SAMPLE A	SAMPLE B	-2.86912574*	.395169989	.000	-4.86129835	-.87695313
		SAMPLE C	-4.18182780*	.395169989	.000	-6.17400041	-2.18965519
		SAMPLE D	-5.01968936*	.395169989	.000	-7.01186197	-3.02751675
	SAMPLE B	SAMPLE A	2.86912574*	.395169989	.000	.87695313	4.86129835
		SAMPLE C	-1.31270206	.395169989	.011	-3.30487467	.67947055
		SAMPLE D	-2.15056360*	.395169989	.001	-4.14273623	-.15839101
	SAMPLE C	SAMPLE A	4.18182780*	.395169989	.000	2.18965519	6.17400041
		SAMPLE B	1.31270206	.395169989	.011	-.67947055	3.30487467

	SAMPLE D	-.83786156	.395169989	.067	-2.83003417	1.15431105
SAMPLE D	SAMPLE A	5.01968936*	.395169989	.000	3.02751675	7.01186197
	SAMPLE B	2.15056362*	.395169989	.001	.15839101	4.14273623
	SAMPLE C	.837861560	.395169989	.067	-1.15431105	2.83003417

*. The mean difference is significant at the 0.001 level.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
MAGNESIUM	Between Groups	66.013	3	22.004	19586.975	.000
	Within Groups	.009	8	.001		
	Total	66.022	11			
SODIUM	Between Groups	553.943	3	184.648	1073533.544	.000
	Within Groups	.001	8	.000		
	Total	553.945	11			
CALCIUM	Between Groups	865.536	3	288.512	1073533.544	.000
	Within Groups	.002	8	.000		
	Total	865.539	11			
POTASSIUM	Between Groups	2489.643	3	829.881	1073533.544	.000
	Within Groups	.006	8	.001		
	Total	2489.649	11			
ZINC	Between Groups	.034	3	.011	1073532.942	.000
	Within Groups	.000	8	.000		
	Total	.034	11			
IRON	Between Groups	.046	3	.015	1073533.483	.000
	Within Groups	.000	8	.000		
	Total	.046	11			

Post Hoc Tests

Multiple Comparisons

LSD

Dependent Variable	(I) SAMPLE	(J) SAMPLE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
MAGNESIUM	SAMPLE A	SAMPLE B	-2.395667*	.027367	.000	-2.45877	-2.33256
		SAMPLE C	-6.553333*	.027367	.000	-6.61644	-6.49023
		SAMPLE D	-2.847333*	.027367	.000	-2.91044	-2.78423
	SAMPLE B	SAMPLE A	2.395667*	.027367	.000	2.33256	2.45877

		SAMPLE C	-4.157667*	.027367	.000	-4.22077	-4.09456
		SAMPLE D	-.451667*	.027367	.000	-.51477	-.38856
	SAMPLE C	SAMPLE A	6.553333*	.027367	.000	6.49023	6.61644
		SAMPLE B	4.157667*	.027367	.000	4.09456	4.22077
		SAMPLE D	3.706000*	.027367	.000	3.64289	3.76911
	SAMPLE D	SAMPLE A	2.847333*	.027367	.000	2.78423	2.91044
		SAMPLE B	.451667*	.027367	.000	.38856	.51477
		SAMPLE C	-3.706000*	.027367	.000	-3.76911	-3.64289
SODIUM	SAMPLE A	SAMPLE B	-10.983333*	.010708	.000	-11.00803	-10.95864
		SAMPLE C	-18.781667*	.010708	.000	-18.80636	-18.75697
		SAMPLE D	-12.884000*	.010708	.000	-12.90869	-12.85931
	SAMPLE B	SAMPLE A	10.983333*	.010708	.000	10.95864	11.00803
		SAMPLE C	-7.798333*	.010708	.000	-7.82303	-7.77364
		SAMPLE D	-1.900667*	.010708	.000	-1.92536	-1.87597
	SAMPLE C	SAMPLE A	18.781667*	.010708	.000	18.75697	18.80636
		SAMPLE B	7.798333*	.010708	.000	7.77364	7.82303
		SAMPLE D	5.897667*	.010708	.000	5.87297	5.92236
	SAMPLE D	SAMPLE A	12.884000*	.010708	.000	12.85931	12.90869
		SAMPLE B	1.900667*	.010708	.000	1.87597	1.92536
		SAMPLE C	-5.897667*	.010708	.000	-5.92236	-5.87297
CALCIUM	SAMPLE A	SAMPLE B	-13.7291667*	.0133853	.000	-13.760033	-13.698300
		SAMPLE C	-23.4770833*	.0133853	.000	-23.507950	-23.446217
		SAMPLE D	-16.1050000*	.0133853	.000	-16.135867	-16.074133
	SAMPLE B	SAMPLE A	13.7291667*	.0133853	.000	13.698300	13.760033
		SAMPLE C	-9.7479167*	.0133853	.000	-9.778783	-9.717050
		SAMPLE D	-2.3758333*	.0133853	.000	-2.406700	-2.344967
	SAMPLE C	SAMPLE A	23.4770833*	.0133853	.000	23.446217	23.507950
		SAMPLE B	9.7479167*	.0133853	.000	9.717050	9.778783
		SAMPLE D	7.3720833*	.0133853	.000	7.341217	7.402950
	SAMPLE D	SAMPLE A	16.1050000*	.0133853	.000	16.074133	16.135867
		SAMPLE B	2.3758333*	.0133853	.000	2.344967	2.406700
		SAMPLE C	-7.3720833*	.0133853	.000	-7.402950	-7.341217
POTASSIUM	SAMPLE A	SAMPLE B	-23.2846667*	.0227015	.000	-23.337016	-23.232317
		SAMPLE C	-39.8171333*	.0227015	.000	-39.869483	-39.764784
		SAMPLE D	-27.3140800*	.0227015	.000	-27.366430	-27.261730
	SAMPLE B	SAMPLE A	23.2846667*	.0227015	.000	23.232317	23.337016
		SAMPLE C	-16.5324667*	.0227015	.000	-16.584816	-16.480117

		SAMPLE D	-4.0294133*	.0227015	.000	-4.081763	-3.977064
	SAMPLE C	SAMPLE A	39.8171333*	.0227015	.000	39.764784	39.869483
		SAMPLE B	16.5324667*	.0227015	.000	16.480117	16.584816
		SAMPLE D	12.5030533*	.0227015	.000	12.450704	12.555403
	SAMPLE D	SAMPLE A	27.3140800*	.0227015	.000	27.261730	27.366430
		SAMPLE B	4.0294133*	.0227015	.000	3.977064	4.081763
		SAMPLE C	-12.5030533*	.0227015	.000	-12.555403	-12.450704
ZINC	SAMPLE A	SAMPLE B	-.085673427*	.000083528	.000	-.08586604	-.08548081
		SAMPLE C	-.146502860*	.000083528	.000	-.14669548	-.14631024
		SAMPLE D	-.100499220*	.000083528	.000	-.10069184	-.10030660
	SAMPLE B	SAMPLE A	.085673427*	.000083528	.000	.08548081	.08586604
		SAMPLE C	-.060829433*	.000083528	.000	-.06102205	-.06063682
		SAMPLE D	-.014825793*	.000083528	.000	-.01501841	-.01463318
	SAMPLE C	SAMPLE A	.146502860*	.000083528	.000	.14631024	.14669548
		SAMPLE B	.060829433*	.000083528	.000	.06063682	.06102205
		SAMPLE D	.046003640*	.000083528	.000	.04581102	.04619626
	SAMPLE D	SAMPLE A	.100499220*	.000083528	.000	.10030660	.10069184
		SAMPLE B	.014825793*	.000083528	.000	.01463318	.01501841
		SAMPLE C	-.046003640*	.000083528	.000	-.04619626	-.04581102
IRON	SAMPLE A	SAMPLE B	-.099622072*	.000097127	.000	-.09984605	-.09939810
		SAMPLE C	-.170355253*	.000097127	.000	-.17057923	-.17013128
		SAMPLE D	-.116861679*	.000097127	.000	-.11708565	-.11663770
	SAMPLE B	SAMPLE A	.099622072*	.000097127	.000	.09939810	.09984605
		SAMPLE C	-.070733182*	.000097127	.000	-.07095716	-.07050921
		SAMPLE D	-.017239607*	.000097127	.000	-.01746358	-.01701563
	SAMPLE C	SAMPLE A	.170355253*	.000097127	.000	.17013128	.17057923
		SAMPLE B	.070733182*	.000097127	.000	.07050921	.07095716
		SAMPLE D	.053493575*	.000097127	.000	.05326960	.05371755
	SAMPLE D	SAMPLE A	.116861679*	.000097127	.000	.11663770	.11708565
		SAMPLE B	.017239607*	.000097127	.000	.01701563	.01746358
		SAMPLE C	-.053493575*	.000097127	.000	-.05371755	-.05326960

*. The mean difference is significant at the 0.05 leve.

Post Hoc Tests

Multiple Comparisons

LSD

Dependent	(I)	(J)	Mean	Std. Error	Sig.	99% Confidence Interval

Variable	SAMPLE	SAMPLE	Difference (I-J)			Lower Bound	Upper Bound
MAGNESIUM	SAMPLE A	SAMPLE B	-2.395667*	.027367	.000	-2.48749	-2.30384
		SAMPLE C	-6.553333*	.027367	.000	-6.64516	-6.46151
		SAMPLE D	-2.847333*	.027367	.000	-2.93916	-2.75551
	SAMPLE B	SAMPLE A	2.395667*	.027367	.000	2.30384	2.48749
		SAMPLE C	-4.157667*	.027367	.000	-4.24949	-4.06584
		SAMPLE D	-.451667*	.027367	.000	-.54349	-.35984
	SAMPLE C	SAMPLE A	6.553333*	.027367	.000	6.46151	6.64516
		SAMPLE B	4.157667*	.027367	.000	4.06584	4.24949
		SAMPLE D	3.706000*	.027367	.000	3.61417	3.79783
	SAMPLE D	SAMPLE A	2.847333*	.027367	.000	2.75551	2.93916
		SAMPLE B	.451667*	.027367	.000	.35984	.54349
		SAMPLE C	-3.706000*	.027367	.000	-3.79783	-3.61417
SODIUM	SAMPLE A	SAMPLE B	-10.983333*	.010708	.000	-11.01926	-10.94740
		SAMPLE C	-18.781667*	.010708	.000	-18.81760	-18.74574
		SAMPLE D	-12.884000*	.010708	.000	-12.91993	-12.84807
	SAMPLE B	SAMPLE A	10.983333*	.010708	.000	10.94740	11.01926
		SAMPLE C	-7.798333*	.010708	.000	-7.83426	-7.76240
		SAMPLE D	-1.900667*	.010708	.000	-1.93660	-1.86474
	SAMPLE C	SAMPLE A	18.781667*	.010708	.000	18.74574	18.81760
		SAMPLE B	7.798333*	.010708	.000	7.76240	7.83426
		SAMPLE D	5.897667*	.010708	.000	5.86174	5.93360
	SAMPLE D	SAMPLE A	12.884000*	.010708	.000	12.84807	12.91993
		SAMPLE B	1.900667*	.010708	.000	1.86474	1.93660
		SAMPLE C	-5.897667*	.010708	.000	-5.93360	-5.86174
CALCIUM	SAMPLE A	SAMPLE B	-13.7291667*	.0133853	.000	-13.774080	-13.684254
		SAMPLE C	-23.4770833*	.0133853	.000	-23.521996	-23.432170
		SAMPLE D	-16.1050000*	.0133853	.000	-16.149913	-16.060087
	SAMPLE B	SAMPLE A	13.7291667*	.0133853	.000	13.684254	13.774080
		SAMPLE C	-9.7479167*	.0133853	.000	-9.792830	-9.703004
		SAMPLE D	-2.3758333*	.0133853	.000	-2.420746	-2.330920
	SAMPLE C	SAMPLE A	23.4770833*	.0133853	.000	23.432170	23.521996
		SAMPLE B	9.7479167*	.0133853	.000	9.703004	9.792830
		SAMPLE D	7.3720833*	.0133853	.000	7.327170	7.416996
	SAMPLE D	SAMPLE A	16.1050000*	.0133853	.000	16.060087	16.149913
		SAMPLE B	2.3758333*	.0133853	.000	2.330920	2.420746

		SAMPLE C	-7.3720833*	.0133853	.000	-7.416996	-7.327170
POTASSIUM	SAMPLE A	SAMPLE B	-23.2846667*	.0227015	.000	-23.360839	-23.208494
		SAMPLE C	-39.8171333*	.0227015	.000	-39.893306	-39.740961
		SAMPLE D	-27.3140800*	.0227015	.000	-27.390252	-27.237908
	SAMPLE B	SAMPLE A	23.2846667*	.0227015	.000	23.208494	23.360839
		SAMPLE C	-16.5324667*	.0227015	.000	-16.608639	-16.456294
		SAMPLE D	-4.0294133*	.0227015	.000	-4.105586	-3.953241
	SAMPLE C	SAMPLE A	39.8171333*	.0227015	.000	39.740961	39.893306
		SAMPLE B	16.5324667*	.0227015	.000	16.456294	16.608639
		SAMPLE D	12.5030533*	.0227015	.000	12.426881	12.579226
	SAMPLE D	SAMPLE A	27.3140800*	.0227015	.000	27.237908	27.390252
		SAMPLE B	4.0294133*	.0227015	.000	3.953241	4.105586
		SAMPLE C	-12.5030533*	.0227015	.000	-12.579226	-12.426881
ZINC	SAMPLE A	SAMPLE B	-.085673427*	.000083528	.000	-.08595369	-.08539316
		SAMPLE C	-.146502860*	.000083528	.000	-.14678313	-.14622259
		SAMPLE D	-.100499220*	.000083528	.000	-.10077949	-.10021895
	SAMPLE B	SAMPLE A	.085673427*	.000083528	.000	.08539316	.08595369
		SAMPLE C	-.060829433*	.000083528	.000	-.06110970	-.06054917
		SAMPLE D	-.014825793*	.000083528	.000	-.01510606	-.01454553
	SAMPLE C	SAMPLE A	.146502860*	.000083528	.000	.14622259	.14678313
		SAMPLE B	.060829433*	.000083528	.000	.06054917	.06110970
		SAMPLE D	.046003640*	.000083528	.000	.04572337	.04628391
	SAMPLE D	SAMPLE A	.100499220*	.000083528	.000	.10021895	.10077949
		SAMPLE B	.014825793*	.000083528	.000	.01454553	.01510606
		SAMPLE C	-.046003640*	.000083528	.000	-.04628391	-.04572337
IRON	SAMPLE A	SAMPLE B	-.099622072*	.000097127	.000	-.09994797	-.09929617
		SAMPLE C	-.170355253*	.000097127	.000	-.17068115	-.17002935
		SAMPLE D	-.116861679*	.000097127	.000	-.11718758	-.11653578
	SAMPLE B	SAMPLE A	.099622072*	.000097127	.000	.09929617	.09994797
		SAMPLE C	-.070733182*	.000097127	.000	-.07105908	-.07040728
		SAMPLE D	-.017239607*	.000097127	.000	-.01756551	-.01691371
	SAMPLE C	SAMPLE A	.170355253*	.000097127	.000	.17002935	.17068115
		SAMPLE B	.070733182*	.000097127	.000	.07040728	.07105908
		SAMPLE D	.053493575*	.000097127	.000	.05316768	.05381947
	SAMPLE D	SAMPLE A	.116861679*	.000097127	.000	.11653578	.11718758
		SAMPLE B	.017239607*	.000097127	.000	.01691371	.01756551
		SAMPLE C	-.053493575*	.000097127	.000	-.05381947	-.05316768

*. The mean difference is significant at the 0.01 level.

Post Hoc Tests

Multiple Comparisons

LSD

Dependent Variable	(I) SAMPLE	(J) SAMPLE	Mean Difference (I-J)	Std. Error	Sig.	99.9% Confidence Interval	
						Lower Bound	Upper Bound
MAGNESIUM	SAMPLE A	SAMPLE B	-2.395667*	.027367	.000	-2.53363	-2.25770
		SAMPLE C	-6.553333*	.027367	.000	-6.69130	-6.41537
		SAMPLE D	-2.847333*	.027367	.000	-2.98530	-2.70937
	SAMPLE B	SAMPLE A	2.395667*	.027367	.000	2.25770	2.53363
		SAMPLE C	-4.157667*	.027367	.000	-4.29563	-4.01970
		SAMPLE D	-.451667*	.027367	.000	-.58963	-.31370
	SAMPLE C	SAMPLE A	6.553333*	.027367	.000	6.41537	6.69130
		SAMPLE B	4.157667*	.027367	.000	4.01970	4.29563
		SAMPLE D	3.706000*	.027367	.000	3.56804	3.84396
	SAMPLE D	SAMPLE A	2.847333*	.027367	.000	2.70937	2.98530
		SAMPLE B	.451667*	.027367	.000	.31370	.58963
		SAMPLE C	-3.706000*	.027367	.000	-3.84396	-3.56804
SODIUM	SAMPLE A	SAMPLE B	-10.983333*	.010708	.000	-11.03732	-10.92935
		SAMPLE C	-18.781667*	.010708	.000	-18.83565	-18.72768
		SAMPLE D	-12.884000*	.010708	.000	-12.93798	-12.83002
	SAMPLE B	SAMPLE A	10.983333*	.010708	.000	10.92935	11.03732
		SAMPLE C	-7.798333*	.010708	.000	-7.85232	-7.74435
		SAMPLE D	-1.900667*	.010708	.000	-1.95465	-1.84668
	SAMPLE C	SAMPLE A	18.781667*	.010708	.000	18.72768	18.83565
		SAMPLE B	7.798333*	.010708	.000	7.74435	7.85232
		SAMPLE D	5.897667*	.010708	.000	5.84368	5.95165
	SAMPLE D	SAMPLE A	12.884000*	.010708	.000	12.83002	12.93798
		SAMPLE B	1.900667*	.010708	.000	1.84668	1.95465
		SAMPLE C	-5.897667*	.010708	.000	-5.95165	-5.84368
CALCIUM	SAMPLE A	SAMPLE B	-13.7291667*	.0133853	.000	-13.796646	-13.661687
		SAMPLE C	-23.4770833*	.0133853	.000	-23.544563	-23.409604
		SAMPLE D	-16.1050000*	.0133853	.000	-16.172479	-16.037521
	SAMPLE B	SAMPLE A	13.7291667*	.0133853	.000	13.661687	13.796646
		SAMPLE C	-9.7479167*	.0133853	.000	-9.815396	-9.680437

		SAMPLE D	-2.3758333*	.0133853	.000	-2.443313	-2.308354
	SAMPLE C	SAMPLE A	23.4770833*	.0133853	.000	23.409604	23.544563
		SAMPLE B	9.7479167*	.0133853	.000	9.680437	9.815396
		SAMPLE D	7.3720833*	.0133853	.000	7.304604	7.439563
	SAMPLE D	SAMPLE A	16.1050000*	.0133853	.000	16.037521	16.172479
		SAMPLE B	2.3758333*	.0133853	.000	2.308354	2.443313
		SAMPLE C	-7.3720833*	.0133853	.000	-7.439563	-7.304604
POTASSIUM	SAMPLE A	SAMPLE B	-23.2846667*	.0227015	.000	-23.399112	-23.170221
		SAMPLE C	-39.8171333*	.0227015	.000	-39.931579	-39.702688
		SAMPLE D	-27.3140800*	.0227015	.000	-27.428525	-27.199635
	SAMPLE B	SAMPLE A	23.2846667*	.0227015	.000	23.170221	23.399112
		SAMPLE C	-16.5324667*	.0227015	.000	-16.646912	-16.418021
		SAMPLE D	-4.0294133*	.0227015	.000	-4.143859	-3.914968
	SAMPLE C	SAMPLE A	39.8171333*	.0227015	.000	39.702688	39.931579
		SAMPLE B	16.5324667*	.0227015	.000	16.418021	16.646912
		SAMPLE D	12.5030533*	.0227015	.000	12.388608	12.617499
	SAMPLE D	SAMPLE A	27.3140800*	.0227015	.000	27.199635	27.428525
		SAMPLE B	4.0294133*	.0227015	.000	3.914968	4.143859
		SAMPLE C	-12.5030533*	.0227015	.000	-12.617499	-12.388608
ZINC	SAMPLE A	SAMPLE B	-.085673427*	.000083528	.000	-.08609452	-.08525234
		SAMPLE C	-.146502860*	.000083528	.000	-.14692395	-.14608177
		SAMPLE D	-.100499220*	.000083528	.000	-.10092031	-.10007813
	SAMPLE B	SAMPLE A	.085673427*	.000083528	.000	.08525234	.08609452
		SAMPLE C	-.060829433*	.000083528	.000	-.06125052	-.06040834
		SAMPLE D	-.014825793*	.000083528	.000	-.01524688	-.01440470
	SAMPLE C	SAMPLE A	.146502860*	.000083528	.000	.14608177	.14692395
		SAMPLE B	.060829433*	.000083528	.000	.06040834	.06125052
		SAMPLE D	.046003640*	.000083528	.000	.04558255	.04642473
	SAMPLE D	SAMPLE A	.100499220*	.000083528	.000	.10007813	.10092031
		SAMPLE B	.014825793*	.000083528	.000	.01440470	.01524688
		SAMPLE C	-.046003640*	.000083528	.000	-.04642473	-.04558255
IRON	SAMPLE A	SAMPLE B	-.099622072*	.000097127	.000	-.10011172	-.09913242
		SAMPLE C	-.170355253*	.000097127	.000	-.17084490	-.16986561
		SAMPLE D	-.116861679*	.000097127	.000	-.11735133	-.11637203
	SAMPLE B	SAMPLE A	.099622072*	.000097127	.000	.09913242	.10011172
		SAMPLE C	-.070733182*	.000097127	.000	-.07122283	-.07024353
		SAMPLE D	-.017239607*	.000097127	.000	-.01772925	-.01674996

SAMPLE C	SAMPLE A	.170355253*	.000097127	.000	.16986561	.17084490
	SAMPLE B	.070733182*	.000097127	.000	.07024353	.07122283
	SAMPLE D	.053493575*	.000097127	.000	.05300393	.05398322
SAMPLE D	SAMPLE A	.116861679*	.000097127	.000	.11637203	.11735133
	SAMPLE B	.017239607*	.000097127	.000	.01674996	.01772925
	SAMPLE C	-.053493575*	.000097127	.000	-.05398322	-.05300393

*. The mean difference is significant at the 0.001 level.

RESULTS OF SENSORY ANALYSIS USING FRIEDMAN TEST

LOOK Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Sample A	10	3.2000	1.31656	1.00	6.00
Sample B	10	2.8000	1.87380	1.00	7.00
Sample C	10	4.1000	2.02485	1.00	8.00
Sample D	10	4.7000	2.86938	1.00	9.00

Ranks

	Mean Rank
Sample A	2.20
Sample B	1.90
Sample C	2.90
Sample D	3.00

Test Statistics[a]

N	10
Chi-Square	6.143
df	3
Asymp. Sig.	.105

a. Friedman Test

FEEL Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Sample A	10	2.8000	1.13529	1.00	5.00
Sample B	10	3.0000	.81650	2.00	4.00
Sample C	10	3.3000	.94868	1.00	4.00
Sample D	10	4.4000	1.89737	2.00	8.00

Table 4. Ranks of Feel

	Mean Rank
Sample A	1.95
Sample B	2.10
Sample C	2.65
Sample D	3.30

Table 5. Test Statistics[a]

N	10
Chi-Square	8.544
df	3
Asymp. Sig.	.036

a. Friedman Test

TASTE Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Sample A	10	2.7000	1.15950	1.00	4.00
Sample B	10	2.4000	1.17379	1.00	4.00
Sample C	10	4.4000	2.06559	1.00	9.00
Sample D	10	5.0000	1.63299	3.00	8.00

Ranks

	Mean Rank
Sample A	1.95
Sample B	1.65
Sample C	3.00
Sample D	3.40

Test Statistics[a]

N	10
Chi-Square	13.452
df	3
Asymp. Sig.	.004

a. Friedman Test

PERCEIVE Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Sample A	20	2.8000	1.19649	1.00	4.00
Sample B	20	2.5000	1.05131	1.00	4.00
Sample C	20	3.9000	1.86096	2.00	9.00

Sample D	20	4.5000	2.52357	1.00	9.00

Ranks

	Mean Rank
Sample A	2.35
Sample B	1.95
Sample C	2.80
Sample D	2.90

Test Statistics[a]

N	20
Chi-Square	7.931
df	3
Asymp. Sig.	.047

a. Friedman Test

ACCEPTABILITY Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Sample A	20	2.5000	1.67017	1.00	6.00
Sample B	20	3.2000	2.14231	1.00	8.00
Sample C	20	6.0000	2.20048	1.00	8.00
Sample D	20	6.7000	2.34184	2.00	9.00

Ranks

	Mean Rank
Sample A	1.50
Sample B	2.00
Sample C	2.95
Sample D	3.55

Test Statistics[a]

N	**20**
Chi-Square	**32.274**
df	**3**
Asymp. Sig.	**.000**

a. Friedman Test