

7. APPENDIX

Appendix 1. Data Analysis by SPSS

Glucosinolates Content

Tests of Normality

| steaming _period | | Kolmogorov-Smirnov(a) | | | Shapiro-Wilk | | | |
|---------------------|----------|-----------------------|------|---------|--------------|------|------|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. | |
| IBE_log | FRESH | ,370 | 6 | ,010 | ,800 | 6 | ,059 | |
| | 0' | ,200 | 6 | ,200(*) | ,960 | 6 | ,821 | |
| | 5' | ,215 | 6 | ,200(*) | ,941 | 6 | ,664 | |
| | 15' | ,186 | 6 | ,200(*) | ,958 | 6 | ,801 | |
| | 15' | ,187 | 6 | ,200(*) | ,921 | 6 | ,514 | |
| | 30' | ,211 | 6 | ,200(*) | ,933 | 6 | ,605 | |
| | 45' | ,305 | 6 | ,084 | ,748 | 6 | ,019 | |
| | 60' | ,241 | 6 | ,200(*) | ,910 | 6 | ,438 | |
| | 90' | ,162 | 6 | ,200(*) | ,970 | 6 | ,889 | |
| | 120' | ,207 | 6 | ,200(*) | ,914 | 6 | ,465 | |
| | 150' | ,194 | 6 | ,200(*) | ,927 | 6 | ,554 | |
| | 180' | ,348 | 6 | ,022 | ,858 | 6 | ,183 | |
| | PROG_log | FRESH | ,359 | 6 | ,015 | ,839 | 6 | ,129 |
| | | 0' | ,294 | 6 | ,115 | ,828 | 6 | ,104 |
| 5' | | ,206 | 6 | ,200(*) | ,915 | 6 | ,467 | |
| 15' | | ,229 | 6 | ,200(*) | ,843 | 6 | ,138 | |
| 15' | | ,283 | 6 | ,144 | ,875 | 6 | ,245 | |
| 30' | | ,263 | 6 | ,200(*) | ,801 | 6 | ,060 | |
| 45' | | ,295 | 6 | ,112 | ,801 | 6 | ,060 | |
| 60' | | ,197 | 6 | ,200(*) | ,924 | 6 | ,532 | |
| 90' | | ,229 | 6 | ,200(*) | ,927 | 6 | ,560 | |
| 120' | | ,227 | 6 | ,200(*) | ,908 | 6 | ,424 | |
| 150' | | ,316 | 6 | ,062 | ,897 | 6 | ,356 | |
| 180' | | ,336 | 6 | ,033 | ,827 | 6 | ,101 | |
| SIN_log | | FRESH | ,311 | 6 | ,072 | ,902 | 6 | ,386 |
| | | 0' | ,221 | 6 | ,200(*) | ,886 | 6 | ,296 |
| | 5' | ,173 | 6 | ,200(*) | ,926 | 6 | ,546 | |
| | 15' | ,198 | 6 | ,200(*) | ,875 | 6 | ,246 | |
| | 15' | ,224 | 6 | ,200(*) | ,936 | 6 | ,630 | |
| | 30' | ,344 | 6 | ,026 | ,785 | 6 | ,043 | |
| | 45' | ,343 | 6 | ,026 | ,834 | 6 | ,117 | |
| | 60' | ,181 | 6 | ,200(*) | ,958 | 6 | ,802 | |
| | 90' | ,281 | 6 | ,151 | ,846 | 6 | ,147 | |
| | 120' | ,219 | 6 | ,200(*) | ,912 | 6 | ,451 | |
| | 150' | ,297 | 6 | ,106 | ,794 | 6 | ,052 | |
| | 180' | ,342 | 6 | ,027 | ,826 | 6 | ,099 | |
| | RAPH_log | FRESH | ,355 | 6 | ,017 | ,803 | 6 | ,062 |
| | | 0' | ,269 | 6 | ,200(*) | ,810 | 6 | ,072 |
| 5' | | ,185 | 6 | ,200(*) | ,955 | 6 | ,777 | |
| 15' | | ,237 | 6 | ,200(*) | ,875 | 6 | ,245 | |

| | | | | | | | |
|--------------|-------|------|---|---------|------|---|------|
| | 15' | ,150 | 6 | ,200(*) | ,967 | 6 | ,874 |
| | 30' | ,320 | 6 | ,054 | ,858 | 6 | ,181 |
| | 45' | ,328 | 6 | ,042 | ,852 | 6 | ,164 |
| | 60' | ,175 | 6 | ,200(*) | ,962 | 6 | ,832 |
| | 90' | ,268 | 6 | ,200(*) | ,900 | 6 | ,374 |
| | 120' | ,304 | 6 | ,086 | ,796 | 6 | ,054 |
| | 150' | ,361 | 6 | ,014 | ,745 | 6 | ,018 |
| | 180' | ,342 | 6 | ,027 | ,868 | 6 | ,220 |
| GBRAS_log | FRESH | ,363 | 6 | ,013 | ,839 | 6 | ,127 |
| | 0' | ,215 | 6 | ,200(*) | ,940 | 6 | ,660 |
| | 5' | ,366 | 6 | ,012 | ,823 | 6 | ,094 |
| | 15' | ,213 | 6 | ,200(*) | ,911 | 6 | ,442 |
| | 15' | ,186 | 6 | ,200(*) | ,954 | 6 | ,775 |
| | 30' | ,188 | 6 | ,200(*) | ,970 | 6 | ,894 |
| | 45' | ,235 | 6 | ,200(*) | ,892 | 6 | ,331 |
| | 60' | ,212 | 6 | ,200(*) | ,931 | 6 | ,591 |
| | 90' | ,232 | 6 | ,200(*) | ,917 | 6 | ,487 |
| | 120' | ,176 | 6 | ,200(*) | ,922 | 6 | ,521 |
| | 150' | ,183 | 6 | ,200(*) | ,980 | 6 | ,949 |
| | 180' | ,344 | 6 | ,026 | ,856 | 6 | ,175 |
| METHGBRA_log | FRESH | ,316 | 6 | ,062 | ,888 | 6 | ,310 |
| | 0' | ,231 | 6 | ,200(*) | ,897 | 6 | ,359 |
| | 5' | ,236 | 6 | ,200(*) | ,960 | 6 | ,821 |
| | 15' | ,309 | 6 | ,075 | ,853 | 6 | ,167 |
| | 15' | ,182 | 6 | ,200(*) | ,950 | 6 | ,736 |
| | 30' | ,212 | 6 | ,200(*) | ,911 | 6 | ,440 |
| | 45' | ,247 | 6 | ,200(*) | ,880 | 6 | ,269 |
| | 60' | ,315 | 6 | ,064 | ,870 | 6 | ,224 |
| | 90' | ,212 | 6 | ,200(*) | ,904 | 6 | ,401 |
| | 120' | ,312 | 6 | ,069 | ,884 | 6 | ,289 |
| | 150' | ,352 | 6 | ,019 | ,852 | 6 | ,165 |
| | 180' | ,341 | 6 | ,028 | ,826 | 6 | ,100 |

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|----------|----------------|----------------|----|-------------|--------|------|
| IBE_log | Between Groups | ,764 | 11 | ,069 | 14,949 | ,000 |
| | Within Groups | ,279 | 60 | ,005 | | |
| | Total | 1,043 | 71 | | | |
| PROG_log | Between Groups | 3,564 | 11 | ,324 | 30,377 | ,000 |
| | Within Groups | ,640 | 60 | ,011 | | |
| | Total | 4,204 | 71 | | | |
| SIN_log | Between Groups | ,597 | 11 | ,054 | 10,577 | ,000 |
| | Within Groups | ,308 | 60 | ,005 | | |
| | Total | ,904 | 71 | | | |
| RAPH_log | Between Groups | 1,644 | 11 | ,149 | 11,979 | ,000 |

| | | | | | | |
|--------------|----------------|--------|----|------|---------|------|
| | Within Groups | ,749 | 60 | ,012 | | |
| | Total | 2,393 | 71 | | | |
| GBRAS_log | Between Groups | 9,845 | 11 | ,895 | 108,948 | ,000 |
| | Within Groups | ,493 | 60 | ,008 | | |
| | Total | 10,338 | 71 | | | |
| METHGBRA_log | Between Groups | 9,626 | 11 | ,875 | 244,214 | ,000 |
| | Within Groups | ,215 | 60 | ,004 | | |
| | Total | 9,841 | 71 | | | |

Post Hoc Test

IBE_log

| steaming_period | N | Subset for alpha = .05 | | | | | | |
|-----------------|---|------------------------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 1 |
| 180' | 6 | | 2,2701 | | | | | |
| FRESH | 6 | | | 2,4175 | | | | |
| 150' | 6 | | | 2,4749 | 2,4749 | | | |
| 120' | 6 | | | 2,4806 | 2,4806 | | | |
| 90' | 6 | | | | 2,5352 | 2,5352 | | |
| 30' | 6 | | | | 2,5488 | 2,5488 | 2,5488 | |
| 15' | 6 | | | | 2,5579 | 2,5579 | 2,5579 | 2,5579 |
| 60' | 6 | | | | | 2,5897 | 2,5897 | 2,5897 |
| 45' | 6 | | | | | 2,6061 | 2,6061 | 2,6061 |
| 0' | 6 | | | | | 2,6174 | 2,6174 | 2,6174 |
| 5' | 6 | | | | | | 2,6325 | 2,6325 |
| 10' | 6 | | | | | | | 2,6444 |
| Sig. | | | 1,000 | ,136 | ,063 | ,071 | ,066 | ,057 |

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 6,000.

PROG_log

Duncan

| steaming_period | N | Subset for alpha = .05 | | | | | | | |
|-----------------|---|------------------------|--------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 |
| 180' | 6 | | 1,6345 | | | | | | |
| 150' | 6 | | | 1,9344 | | | | | |
| FRESH | 6 | | | 2,0341 | 2,0341 | | | | |
| 120' | 6 | | | | 2,1168 | 2,1168 | | | |
| 90' | 6 | | | | | 2,1694 | | | |
| 45' | 6 | | | | | 2,2335 | 2,2335 | | |
| 30' | 6 | | | | | 2,2373 | 2,2373 | | |
| 60' | 6 | | | | | 2,2442 | 2,2442 | | |
| 15' | 6 | | | | | | 2,3108 | 2,3108 | |
| 0' | 6 | | | | | | | 2,3901 | 2,3901 |
| 10' | 6 | | | | | | | 2,4198 | 2,4198 |
| 5' | 6 | | | | | | | | 2,4661 |
| Sig. | | | 1,000 | ,100 | ,171 | ,060 | ,245 | ,088 | ,235 |

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 6,000.

SIN_log

Duncan

| steaming_period | N | Subset for alpha = .05 | | | | | |
|-----------------|---|------------------------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 | 1 |
| 180' | 6 | | 1,9493 | | | | |
| 150' | 6 | | | 2,0600 | | | |
| 120' | 6 | | | 2,0723 | 2,0723 | | |
| FRESH | 6 | | | 2,0961 | 2,0961 | | |
| 90' | 6 | | | | 2,1569 | 2,1569 | |
| 0' | 6 | | | | | 2,1859 | 2,1859 |
| 5' | 6 | | | | | 2,1975 | 2,1975 |
| 60' | 6 | | | | | 2,1999 | 2,1999 |
| 10' | 6 | | | | | 2,2175 | 2,2175 |
| 45' | 6 | | | | | 2,2334 | 2,2334 |
| 30' | 6 | | | | | 2,2503 | 2,2503 |
| 15' | 6 | | | | | | 2,2733 |
| Sig. | | | 1,000 | ,415 | ,057 | ,053 | ,071 |

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 6,000.

RAPH_log

Duncan

| steaming_period | N | Subset for alpha = .05 | | | | | |
|-----------------|---|------------------------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 | 1 |
| 150' | 6 | | 2,4643 | | | | |
| 180' | 6 | | 2,4756 | | | | |
| 120' | 6 | | 2,5354 | 2,5354 | | | |
| 90' | 6 | | | 2,6283 | 2,6283 | | |
| FRESH | 6 | | | 2,6400 | 2,6400 | | |
| 0' | 6 | | | | 2,7507 | 2,7507 | |
| 30' | 6 | | | | | 2,7764 | |
| 5' | 6 | | | | | 2,7868 | |
| 45' | 6 | | | | | 2,8008 | |
| 60' | 6 | | | | | 2,8188 | |
| 10' | 6 | | | | | 2,8577 | 2,8577 |
| 15' | 6 | | | | | | 2,9609 |
| Sig. | | | ,305 | ,131 | ,077 | ,153 | ,115 |

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 6,000.

GBRAS_log

| steaming_ period | N | Subset for alpha = .05 | | | | | | | | |
|---------------------|---|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 |
| 180' | 6 | 1,6100 | | | | | | | | |
| 150' | 6 | | 1,7334 | | | | | | | |
| 120' | 6 | | | 1,9689 | | | | | | |
| 90' | 6 | | | | 2,2050 | | | | | |
| 45' | 6 | | | | 2,2815 | 2,2815 | | | | |
| 60' | 6 | | | | | 2,3409 | | | | |
| 10' | 6 | | | | | | 2,5084 | | | |
| 30' | 6 | | | | | | 2,5800 | 2,5800 | | |
| FRESH | 6 | | | | | | | 2,6514 | 2,6514 | |
| 5' | 6 | | | | | | | 2,6542 | 2,6542 | |
| 15' | 6 | | | | | | | | 2,7096 | |
| 0' | 6 | | | | | | | | | 2,7439 |
| Sig. | | 1,000 | 1,000 | 1,000 | ,149 | ,260 | ,176 | ,187 | | ,112 |

Duncan

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 6,000.

METHGBRA_log

| steaming_ period | N | Subset for alpha = .05 | | | | | | | | |
|---------------------|---|------------------------|--------|--------|--------|--------|--------|--------|---|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 |
| 180' | 6 | ,5670 | | | | | | | | |
| 150' | 6 | | 1,2970 | | | | | | | |
| 90' | 6 | | | 1,3755 | | | | | | |
| 120' | 6 | | | 1,4159 | 1,4159 | | | | | |
| 45' | 6 | | | | 1,4791 | 1,4791 | | | | |
| 60' | 6 | | | | | 1,5061 | | | | |
| 30' | 6 | | | | | | 1,6594 | | | |
| 10' | 6 | | | | | | | 1,7489 | | |
| 5' | 6 | | | | | | | 1,7584 | | |
| 15' | 6 | | | | | | | 1,8188 | | |
| 0' | 6 | | | | | | | | | 1,9535 |
| FRESH | 6 | | | | | | | | | 1,9843 |
| Sig. | | 1,000 | 1,000 | ,247 | ,072 | ,439 | 1,000 | ,059 | | ,376 |

Duncan

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 6,000.

Colour Analysis

Tests of Normality

| steaming_period | | Kolmogorov-Smirnov(a) | | | Shapiro-Wilk | | |
|-----------------|---------|-----------------------|------|---------|--------------|------|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| L_value | fresh | ,156 | 12 | ,200(*) | ,976 | 12 | ,960 |
| | 0' | ,159 | 18 | ,200(*) | ,959 | 18 | ,575 |
| | 5' | ,112 | 18 | ,200(*) | ,947 | 18 | ,384 |
| | 10' | ,166 | 18 | ,200(*) | ,955 | 18 | ,504 |
| | 15' | ,149 | 18 | ,200(*) | ,959 | 18 | ,583 |
| | 30' | ,183 | 18 | ,114 | ,878 | 18 | ,024 |
| | 45' | ,127 | 18 | ,200(*) | ,964 | 18 | ,685 |
| | 60' | ,171 | 18 | ,176 | ,909 | 18 | ,083 |
| | 90' | ,159 | 18 | ,200(*) | ,935 | 18 | ,237 |
| | 120' | ,091 | 18 | ,200(*) | ,966 | 18 | ,717 |
| | 150' | ,188 | 18 | ,094 | ,925 | 18 | ,156 |
| | 180' | ,189 | 18 | ,089 | ,925 | 18 | ,156 |
| | a_value | fresh | ,253 | 12 | ,033 | ,898 | 12 |
| 0' | | ,129 | 18 | ,200(*) | ,944 | 18 | ,333 |
| 5' | | ,175 | 18 | ,153 | ,901 | 18 | ,060 |
| 10' | | ,236 | 18 | ,009 | ,922 | 18 | ,142 |
| 15' | | ,125 | 18 | ,200(*) | ,926 | 18 | ,168 |
| 30' | | ,167 | 18 | ,200(*) | ,943 | 18 | ,324 |
| 45' | | ,124 | 18 | ,200(*) | ,966 | 18 | ,711 |
| 60' | | ,119 | 18 | ,200(*) | ,965 | 18 | ,705 |
| 90' | | ,133 | 18 | ,200(*) | ,922 | 18 | ,142 |
| 120' | | ,118 | 18 | ,200(*) | ,982 | 18 | ,968 |
| 150' | | ,167 | 18 | ,200(*) | ,942 | 18 | ,308 |
| 180' | | ,138 | 18 | ,200(*) | ,969 | 18 | ,784 |
| b_value | | fresh | ,220 | 12 | ,114 | ,859 | 12 |
| | 0' | ,132 | 18 | ,200(*) | ,957 | 18 | ,545 |
| | 5' | ,146 | 18 | ,200(*) | ,954 | 18 | ,497 |
| | 10' | ,133 | 18 | ,200(*) | ,972 | 18 | ,827 |
| | 15' | ,163 | 18 | ,200(*) | ,912 | 18 | ,094 |
| | 30' | ,117 | 18 | ,200(*) | ,966 | 18 | ,716 |
| | 45' | ,112 | 18 | ,200(*) | ,955 | 18 | ,503 |
| | 60' | ,095 | 18 | ,200(*) | ,959 | 18 | ,587 |
| | 90' | ,107 | 18 | ,200(*) | ,966 | 18 | ,712 |
| | 120' | ,190 | 18 | ,084 | ,914 | 18 | ,103 |
| | 150' | ,175 | 18 | ,152 | ,966 | 18 | ,717 |
| | 180' | ,122 | 18 | ,200(*) | ,964 | 18 | ,686 |

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---------|----------------|----------------|-----|-------------|--------|------|
| L_value | Between Groups | 2780,176 | 11 | 252,743 | 27,709 | ,000 |
| | Within Groups | 1806,000 | 198 | 9,121 | | |
| | Total | 4586,176 | 209 | | | |
| a_value | Between Groups | 2029,214 | 11 | 184,474 | 49,665 | ,000 |
| | Within Groups | 735,451 | 198 | 3,714 | | |
| | Total | 2764,665 | 209 | | | |
| b_value | Between Groups | 992,412 | 11 | 90,219 | 4,473 | ,000 |
| | Within Groups | 3993,641 | 198 | 20,170 | | |
| | Total | 4986,053 | 209 | | | |

Post Hoc Test

L_value

Duncan

| steaming_period | Subset for alpha = .05 | | | | | | |
|-----------------|------------------------|---|---------|---------|---------|---------|---------|
| | N | 1 | 2 | 3 | 4 | 5 | |
| 180' | 18 | | 62,7000 | | | | |
| 150' | 18 | | | 66,1828 | | | |
| 120' | 18 | | | 66,6172 | 66,6172 | | |
| 5' | 18 | | | 66,8194 | 66,8194 | 66,8194 | |
| 90' | 18 | | | 67,0567 | 67,0567 | 67,0567 | |
| 45' | 18 | | | 67,7978 | 67,7978 | 67,7978 | |
| 30' | 18 | | | 68,0894 | 68,0894 | 68,0894 | |
| 15' | 18 | | | 68,1622 | 68,1622 | 68,1622 | |
| 10' | 18 | | | 68,4694 | 68,4694 | 68,4694 | |
| 60' | 18 | | | | 68,5750 | 68,5750 | |
| 0' | 18 | | | | | 69,1744 | |
| fresh | 12 | | | | | | 81,2408 |
| Sig. | | | 1,000 | ,058 | ,107 | ,050 | 1,000 |

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 17,280.

b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

a_value

Duncan

| steaming_period | N | Subset for alpha = .05 | | | | | | | |
|-----------------|----|------------------------|----------|---------|---------|---------|---------|---------|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 |
| 15' | 18 | -11,6789 | | | | | | | |
| 5' | 18 | -11,5789 | | | | | | | |
| 10' | 18 | -11,4644 | | | | | | | |
| 0' | 18 | | -10,1289 | | | | | | |
| fresh | 12 | | -9,3158 | | | | | | |
| 30' | 18 | | -9,2633 | | | | | | |
| 45' | 18 | | | -7,7294 | | | | | |
| 60' | 18 | | | -6,7256 | -6,7256 | | | | |
| 90' | 18 | | | | -5,6750 | -5,6750 | | | |
| 120' | 18 | | | | | -4,6550 | -4,6550 | | |
| 150' | 18 | | | | | | -3,3933 | -3,3933 | |
| 180' | 18 | | | | | | | -2,7106 | |
| Sig. | | ,761 | ,216 | ,127 | ,111 | ,121 | ,056 | ,299 | |

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 17,280.

b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

b_value

Duncan

| steaming_period | N | Subset for alpha = .05 | | | | | |
|-----------------|----|------------------------|---------|---------|---------|---------|---------|
| | | 1 | 2 | 3 | 4 | 5 | 1 |
| 150' | 18 | 16,3900 | | | | | |
| 120' | 18 | 17,5372 | 17,5372 | | | | |
| 180' | 18 | 17,5511 | 17,5511 | | | | |
| 60' | 18 | 17,8844 | 17,8844 | 17,8844 | | | |
| 90' | 18 | 17,9183 | 17,9183 | 17,9183 | | | |
| 45' | 18 | 19,7644 | 19,7644 | 19,7644 | 19,7644 | | |
| 0' | 18 | | 20,2561 | 20,2561 | 20,2561 | 20,2561 | 20,2561 |
| fresh | 12 | | 20,8767 | 20,8767 | 20,8767 | 20,8767 | 20,8767 |
| 5' | 18 | | | | 21,2417 | 21,2417 | 21,2417 |
| 30' | 18 | | | | | 21,3794 | 21,3794 |
| 15' | 18 | | | | | 22,5378 | 22,5378 |
| 10' | 18 | | | | | | 23,4317 |
| Sig. | | | ,053 | ,060 | ,054 | ,115 | ,070 |

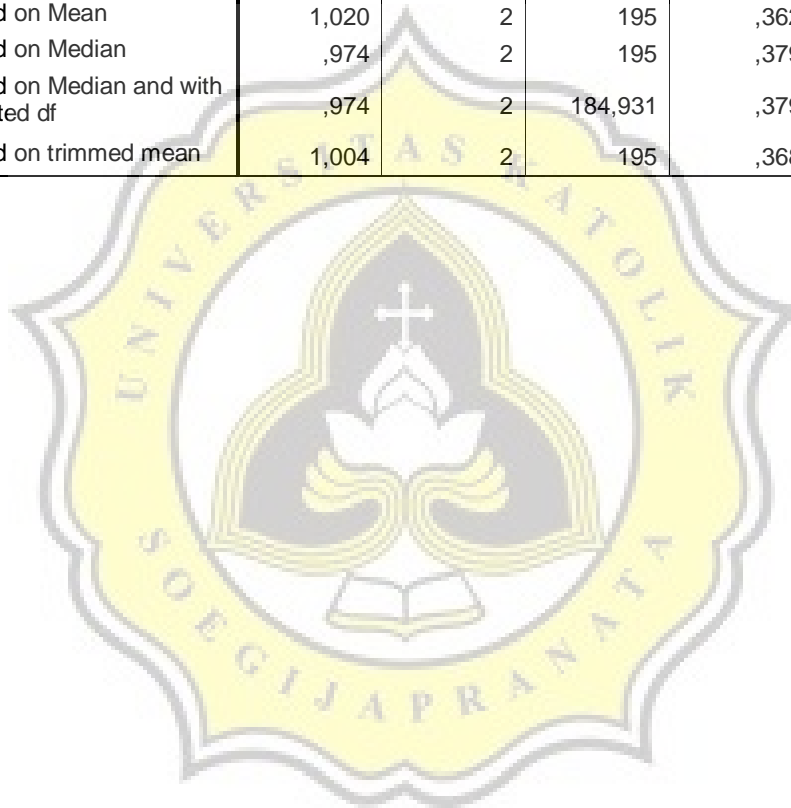
Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 17,280.

b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Test of Homogeneity of Variance

| | | Levene Statistic | df1 | df2 | Sig. |
|---------|---|---------------------|-----|---------|------|
| L_value | Based on Mean | ,427 | 2 | 195 | ,653 |
| | Based on Median | ,542 | 2 | 195 | ,583 |
| | Based on Median and with adjusted df | ,542 | 2 | 193,044 | ,583 |
| | Based on trimmed mean | ,433 | 2 | 195 | ,649 |
| a_value | Based on Mean | 2,075 | 2 | 195 | ,128 |
| | Based on Median | 1,851 | 2 | 195 | ,160 |
| | Based on Median and with adjusted df | 1,851 | 2 | 183,497 | ,160 |
| | Based on trimmed mean | 2,011 | 2 | 195 | ,137 |
| b_value | Based on Mean | 1,020 | 2 | 195 | ,362 |
| | Based on Median | ,974 | 2 | 195 | ,379 |
| | Based on Median and with adjusted df | ,974 | 2 | 184,931 | ,379 |
| | Based on trimmed mean | 1,004 | 2 | 195 | ,368 |



Texture Analysis

Tests of Normality

| steaming_period | Kolmogorov-Smirnov(a) | | | Shapiro-Wilk | | |
|-----------------|-----------------------|----|---------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| texture 1,00 | ,186 | 18 | ,098 | ,888 | 18 | ,035 |
| 2,00 | ,192 | 18 | ,078 | ,895 | 18 | ,046 |
| 3,00 | ,199 | 18 | ,058 | ,900 | 18 | ,057 |
| 4,00 | ,161 | 18 | ,200(*) | ,915 | 18 | ,106 |
| 5,00 | ,137 | 18 | ,200(*) | ,978 | 18 | ,927 |
| 6,00 | ,084 | 18 | ,200(*) | ,985 | 18 | ,985 |
| 7,00 | ,158 | 18 | ,200(*) | ,902 | 18 | ,062 |
| 8,00 | ,133 | 18 | ,200(*) | ,943 | 18 | ,323 |
| 9,00 | ,169 | 18 | ,190 | ,932 | 18 | ,211 |
| 10,00 | ,118 | 18 | ,200(*) | ,959 | 18 | ,589 |
| 11,00 | ,116 | 18 | ,200(*) | ,929 | 18 | ,183 |

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Test of Homogeneity of Variance

| | | Levene Statistic | df1 | df2 | Sig. |
|---------|--------------------------------------|------------------|-----|--------|------|
| texture | Based on Mean | 13,337 | 10 | 187 | ,000 |
| | Based on Median | 7,513 | 10 | 187 | ,000 |
| | Based on Median and with adjusted df | 7,513 | 10 | 61,256 | ,000 |
| | Based on trimmed mean | 12,234 | 10 | 187 | ,000 |

Post Hoc Test

texture_batch1

Duncan

| steaming_period | N | Subset for alpha = .05 | | | |
|-----------------|---|------------------------|-----------|-----------|-----------|
| | | 1 | 2 | 3 | 4 |
| 11,00 | 6 | 1282,8020 | | | |
| 10,00 | 6 | 1336,1999 | | | |
| 9,00 | 6 | 1600,3662 | 1600,3662 | | |
| 8,00 | 6 | 2012,2105 | 2012,2105 | 2012,2105 | |
| 4,00 | 6 | 2094,4437 | 2094,4437 | 2094,4437 | |
| 3,00 | 6 | | 2239,0236 | 2239,0236 | |
| 2,00 | 6 | | 2388,2581 | 2388,2581 | |
| 1,00 | 6 | | | 2536,8865 | |
| 6,00 | 6 | | | | 3341,1782 |
| 7,00 | 6 | | | | 3436,4380 |
| 5,00 | 6 | | | | 3652,3597 |
| Sig. | | ,068 | ,077 | ,241 | ,460 |

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 6,000.

texture_batch2

Duncan

| steaming_period | N | Subset for alpha = .05 | | | | | | |
|-----------------|---|------------------------|-----------|-----------|-----------|-----------|---|-----------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 1 |
| 11,00 | 6 | 1250,6827 | | | | | | |
| 10,00 | 6 | 1468,0957 | 1468,0957 | | | | | |
| 9,00 | 6 | 1688,8617 | 1688,8617 | | | | | |
| 8,00 | 6 | 1751,4226 | 1751,4226 | | | | | |
| 7,00 | 6 | | 2411,4649 | 2411,4649 | | | | |
| 6,00 | 6 | | | 2892,6234 | 2892,6234 | | | |
| 5,00 | 6 | | | | 3689,6416 | | | |
| 4,00 | 6 | | | | | 4761,8677 | | |
| 2,00 | 6 | | | | | 4854,9209 | | |
| 3,00 | 6 | | | | | 5316,8655 | | |
| 1,00 | 6 | | | | | | | 7977,0562 |
| Sig. | | ,363 | ,086 | ,334 | ,112 | ,296 | | 1,000 |

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 6,000.

texture_batch3

Duncan

| steaming_period | N | Subset for alpha = .05 | | | | |
|-----------------|---|------------------------|-----------|-----------|-----------|-----------|
| | | 1 | 2 | 3 | 4 | 1 |
| 11,00 | 6 | 1109,8817 | | | | |
| 10,00 | 6 | 1207,2109 | | | | |
| 9,00 | 6 | 1681,8859 | 1681,8859 | | | |
| 8,00 | 6 | 1749,0348 | 1749,0348 | | | |
| 7,00 | 6 | 1882,3634 | 1882,3634 | | | |
| 6,00 | 6 | | 2429,4824 | 2429,4824 | | |
| 5,00 | 6 | | | 2805,0249 | 2805,0249 | |
| 2,00 | 6 | | | 2843,5497 | 2843,5497 | |
| 4,00 | 6 | | | 2905,8523 | 2905,8523 | |
| 3,00 | 6 | | | 2975,3042 | 2975,3042 | |
| 1,00 | 6 | | | | | 3277,5219 |
| Sig. | | ,067 | ,069 | ,197 | ,264 | |

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 6,000.

Tests of Between-Subjects Effects

Dependent Variable: texture

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-------------------------|-------------------------|----|----------------|----------|------|
| Corrected Model | 397592227,696(a) | 32 | 12424757,115 | 23,236 | ,000 |
| Intercept | 1435356614,024 | 1 | 1435356614,024 | 2684,277 | ,000 |
| batch * steaming_period | 133489723,268 | 20 | 6674486,163 | 12,482 | ,000 |
| batch | 58675325,255 | 2 | 29337662,627 | 54,865 | ,000 |
| steaming_period | 205427179,173 | 10 | 20542717,917 | 38,417 | ,000 |

| | | | | | |
|-----------------|--------------------|-----|------------|--|--|
| Error | 88230034,50 4 | 165 | 534727,482 | | |
| Total | 1921178876, 224 | 198 | | | |
| Corrected Total | 485822262,1 99 | 197 | | | |

a R Squared = ,818 (Adjusted R Squared = ,783)

texture

Duncan

| batch | N | Subset | |
|-------|----|-----------|-----------|
| | 1 | 2 | 1 |
| 3,00 | 66 | 2260,6465 | |
| 1,00 | 66 | 2356,3788 | |
| 2,00 | 66 | | 3460,3185 |
| Sig. | | ,453 | 1,000 |

Means for groups in homogeneous subsets are displayed.

Based on Type III Sum of Squares

The error term is Mean Square(Error) = 534727,482.

a Uses Harmonic Mean Sample Size = 66,000.

b Alpha = ,05.



Appendix 2. Figure of Colour Change of White Cabbage During Steaming

