Supplementary Material

# Supplementary Data

A beaker with liquid in it

Description automatically generated

Supplementary Figure 1. NE formulations preparation

A cutting board with meat and sauce on it

Description automatically generated

Supplementary Figure 2. NE coatings application on pork loin meat

A machine with a lid open

Description automatically generated

Supplementary Figure 3 Lipid oxidation – centrifugation of samples

Day 0

Day 3

Day 6

Day 9

A tray of raw meat

Description automatically generatedA tray of meat in a foil container

Description automatically generatedA tray of meat with labels

Description automatically generatedA group of meat wrapped in foil

Description automatically generated

Supplementary Figure 4. Pork loin meat samples discolouration over 9 day period

**EC50**

Supplementary Table 1 EC50 pairwise comparisons of samples

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Samples** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NEEU | -3,000 | 5,774 | -,520 | ,603 | 1,000 |
| NECA-NECT | 6,000 | 5,774 | 1,039 | ,299 | 1,000 |
| NECA-NECI | -9,000 | 5,774 | -1,559 | ,119 | 1,000 |
| NECA-FCA | -12,000 | 5,774 | -2,078 | ,038 | 1,000 |
| NECA-FEU | -15,000 | 5,774 | -2,598 | ,009 | ,262 |
| NECA-FCT | -18,000 | 5,774 | -3,118 | ,002 | ,051 |
| NECA-FCIN | -21,000 | 5,774 | -3,637 | <,001 | ,008 |
| NEEU-NECT | 3,000 | 5,774 | ,520 | ,603 | 1,000 |
| NEEU-NECI | -6,000 | 5,774 | -1,039 | ,299 | 1,000 |
| NEEU-FCA | -9,000 | 5,774 | -1,559 | ,119 | 1,000 |
| NEEU-FEU | -12,000 | 5,774 | -2,078 | ,038 | 1,000 |
| NEEU-FCT | -15,000 | 5,774 | -2,598 | ,009 | ,262 |
| NEEU-FCIN | -18,000 | 5,774 | -3,118 | ,002 | ,051 |
| NECT-NECI | -3,000 | 5,774 | -,520 | ,603 | 1,000 |
| NECT-FCA | -6,000 | 5,774 | -1,039 | ,299 | 1,000 |
| NECT-FEU | -9,000 | 5,774 | -1,559 | ,119 | 1,000 |
| NECT-FCT | -12,000 | 5,774 | -2,078 | ,038 | 1,000 |
| NECT-FCIN | -15,000 | 5,774 | -2,598 | ,009 | ,262 |
| NECI-FCA | -3,000 | 5,774 | -,520 | ,603 | 1,000 |
| NECI-FEU | -6,000 | 5,774 | -1,039 | ,299 | 1,000 |
| NECI-FCT | -9,000 | 5,774 | -1,559 | ,119 | 1,000 |
| NECI-FCIN | -12,000 | 5,774 | -2,078 | ,038 | 1,000 |
| FCA-FEU | -3,000 | 5,774 | -,520 | ,603 | 1,000 |
| FCA-FCT | 6,000 | 5,774 | 1,039 | ,299 | 1,000 |
| FCA-FCIN | -9,000 | 5,774 | -1,559 | ,119 | 1,000 |
| FEU-FCT | 3,000 | 5,774 | ,520 | ,603 | 1,000 |
| FEU-FCIN | -6,000 | 5,774 | -1,039 | ,299 | 1,000 |
| FCT-FCIN | -3,000 | 5,774 | -,520 | ,603 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

## Well diffusion zone

**E.coli**

Supplementary Table 2 E.coli Well diffusion zone

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. |  |
| FCT-NECT | 3,000 | 5,771 | ,520 | ,603 |  |
| FCT-FCI | 6,000 | 5,771 | 1,040 | ,298 |  |
| FCT-NECI | 9,000 | 5,771 | 1,560 | ,119 |  |
| FCT-FEG | -12,000 | 5,771 | -2,079 | ,038 |  |
| FCT-FCA | 15,000 | 5,771 | 2,599 | ,009 |  |
| FCT-NEEU | 18,000 | 5,771 | 3,119 | ,002 |  |
| FCT-NECA | 21,000 | 5,771 | 3,639 | <,001 |  |
| NECT-FCI | -3,000 | 5,771 | -,520 | ,603 |  |
| NECT-NECI | 6,000 | 5,771 | 1,040 | ,298 |  |
| NECT-FEG | -9,000 | 5,771 | -1,560 | ,119 |  |
| NECT-FCA | -12,000 | 5,771 | -2,079 | ,038 |  |
| NECT-NEEU | -15,000 | 5,771 | -2,599 | ,009 |  |
| NECT-NECA | 18,000 | 5,771 | 3,119 | ,002 |  |
| FCI-NECI | 3,000 | 5,771 | ,520 | ,603 |  |
| FCI-FEG | -6,000 | 5,771 | -1,040 | ,298 |  |
| FCI-FCA | 9,000 | 5,771 | 1,560 | ,119 |  |
| FCI-NEEU | 12,000 | 5,771 | 2,079 | ,038 |  |
| FCI-NECA | 15,000 | 5,771 | 2,599 | ,009 |  |
| NECI-FEG | -3,000 | 5,771 | -,520 | ,603 |  |
| NECI-FCA | -6,000 | 5,771 | -1,040 | ,298 |  |
| NECI-NEEU | -9,000 | 5,771 | -1,560 | ,119 |  |
| NECI-NECA | 12,000 | 5,771 | 2,079 | ,038 |  |
| FEG-FCA | 3,000 | 5,771 | ,520 | ,603 |  |
| FEG-NEEU | 6,000 | 5,771 | 1,040 | ,298 |  |
| FEG-NECA | 9,000 | 5,771 | 1,560 | ,119 |  |
| FCA-NEEU | 3,000 | 5,771 | ,520 | ,603 |  |
| FCA-NECA | 6,000 | 5,771 | 1,040 | ,298 |  |
| NEEU-NECA | 3,000 | 5,771 | ,520 | ,603 |  |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

*L. monocuytogenes*

Supplementary Table 3 L. monocuytogenes Well diffusion zone

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECT-FCT | -3,000 | 5,770 | -,520 | ,603 | 1,000 |
| NECT-FCI | -6,000 | 5,770 | -1,040 | ,298 | 1,000 |
| NECT-NECI | 9,000 | 5,770 | 1,560 | ,119 | 1,000 |
| NECT-FEG | -12,000 | 5,770 | -2,080 | ,038 | 1,000 |
| NECT-FCA | -15,000 | 5,770 | -2,600 | ,009 | ,261 |
| NECT-NEEU | -18,000 | 5,770 | -3,120 | ,002 | ,051 |
| NECT-NECA | 21,000 | 5,770 | 3,640 | <,001 | ,008 |
| FCT-FCI | 3,000 | 5,770 | ,520 | ,603 | 1,000 |
| FCT-NECI | 6,000 | 5,770 | 1,040 | ,298 | 1,000 |
| FCT-FEG | -9,000 | 5,770 | -1,560 | ,119 | 1,000 |
| FCT-FCA | 12,000 | 5,770 | 2,080 | ,038 | 1,000 |
| FCT-NEEU | 15,000 | 5,770 | 2,600 | ,009 | ,261 |
| FCT-NECA | 18,000 | 5,770 | 3,120 | ,002 | ,051 |
| FCI-NECI | 3,000 | 5,770 | ,520 | ,603 | 1,000 |
| FCI-FEG | -6,000 | 5,770 | -1,040 | ,298 | 1,000 |
| FCI-FCA | 9,000 | 5,770 | 1,560 | ,119 | 1,000 |
| FCI-NEEU | 12,000 | 5,770 | 2,080 | ,038 | 1,000 |
| FCI-NECA | 15,000 | 5,770 | 2,600 | ,009 | ,261 |
| NECI-FEG | -3,000 | 5,770 | -,520 | ,603 | 1,000 |
| NECI-FCA | -6,000 | 5,770 | -1,040 | ,298 | 1,000 |
| NECI-NEEU | -9,000 | 5,770 | -1,560 | ,119 | 1,000 |
| NECI-NECA | 12,000 | 5,770 | 2,080 | ,038 | 1,000 |
| FEG-FCA | 3,000 | 5,770 | ,520 | ,603 | 1,000 |
| FEG-NEEU | 6,000 | 5,770 | 1,040 | ,298 | 1,000 |
| FEG-NECA | 9,000 | 5,770 | 1,560 | ,119 | 1,000 |
| FCA-NEEU | 3,000 | 5,770 | ,520 | ,603 | 1,000 |
| FCA-NECA | 6,000 | 5,770 | 1,040 | ,298 | 1,000 |
| NEEU-NECA | 3,000 | 5,770 | ,520 | ,603 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

## pH

Day 0

Supplementary Table 4 pH Day 0 Pairwise Comparisons of Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECI-FCT | -5,667 | 6,400 | -,885 | ,376 | 1,000 |
| NECI-NECA | 6,667 | 6,400 | 1,042 | ,298 | 1,000 |
| NECI-FEG | -9,333 | 6,400 | -1,458 | ,145 | 1,000 |
| NECI-NEEU | -13,167 | 6,400 | -2,057 | ,040 | 1,000 |
| NECI-FCA | -13,167 | 6,400 | -2,057 | ,040 | 1,000 |
| NECI-FCI | -16,500 | 6,400 | -2,578 | ,010 | ,358 |
| NECI-NECT | -18,333 | 6,400 | -2,865 | ,004 | ,150 |
| NECI-Uncoated | -22,167 | 6,400 | -3,463 | <,001 | ,019 |
| FCT-NECA | 1,000 | 6,400 | ,156 | ,876 | 1,000 |
| FCT-FEG | -3,667 | 6,400 | -,573 | ,567 | 1,000 |
| FCT-NEEU | 7,500 | 6,400 | 1,172 | ,241 | 1,000 |
| FCT-FCA | 7,500 | 6,400 | 1,172 | ,241 | 1,000 |
| FCT-FCI | 10,833 | 6,400 | 1,693 | ,091 | 1,000 |
| FCT-NECT | 12,667 | 6,400 | 1,979 | ,048 | 1,000 |
| FCT-Uncoated | -16,500 | 6,400 | -2,578 | ,010 | ,358 |
| NECA-FEG | -2,667 | 6,400 | -,417 | ,677 | 1,000 |
| NECA-NEEU | -6,500 | 6,400 | -1,016 | ,310 | 1,000 |
| NECA-FCA | -6,500 | 6,400 | -1,016 | ,310 | 1,000 |
| NECA-FCI | -9,833 | 6,400 | -1,536 | ,124 | 1,000 |
| NECA-NECT | -11,667 | 6,400 | -1,823 | ,068 | 1,000 |
| NECA-Uncoated | -15,500 | 6,400 | -2,422 | ,015 | ,556 |
| FEG-NEEU | 3,833 | 6,400 | ,599 | ,549 | 1,000 |
| FEG-FCA | 3,833 | 6,400 | ,599 | ,549 | 1,000 |
| FEG-FCI | 7,167 | 6,400 | 1,120 | ,263 | 1,000 |
| FEG-NECT | 9,000 | 6,400 | 1,406 | ,160 | 1,000 |
| FEG-Uncoated | -12,833 | 6,400 | -2,005 | ,045 | 1,000 |
| NEEU-NECT | 5,167 | 6,400 | ,807 | ,420 | 1,000 |
| FCA-NECT | 5,167 | 6,400 | ,807 | ,420 | 1,000 |
| NEEU-Uncoated | -9,000 | 6,400 | -1,406 | ,160 | 1,000 |
| FCA-FCI | -3,333 | 6,400 | -,521 | ,602 | 1,000 |
| FCA-Uncoated | -9,000 | 6,400 | -1,406 | ,160 | 1,000 |
| NEEU-FCA | ,000 | 6,400 | ,000 | 1,000 | 1,000 |
| NEEU-FCI | -3,333 | 6,400 | -,521 | ,602 | 1,000 |
| FCI-NECT | 1,833 | 6,400 | ,286 | ,775 | 1,000 |
| FCI-Uncoated | -5,667 | 6,400 | -,885 | ,376 | 1,000 |
| NECT-Uncoated | -3,833 | 6,400 | -,599 | ,549 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

Day 3

Supplementary Table 5 pH Day 3 Pairwise Comparisons of Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NECT | -1,667 | 6,462 | -,258 | ,796 | 1,000 |
| NECA-NECI | -4,833 | 6,462 | -,748 | ,454 | 1,000 |
| NECA-FCT | -8,167 | 6,462 | -1,264 | ,206 | 1,000 |
| NECA-NEEU | -11,167 | 6,462 | -1,728 | ,084 | 1,000 |
| NECA-FEG | -14,167 | 6,462 | -2,192 | ,028 | 1,000 |
| NECA-FCA | -17,500 | 6,462 | -2,708 | ,007 | ,244 |
| NECA-FCI | -19,833 | 6,462 | -3,069 | ,002 | ,077 |
| NECA-Uncoated | -23,167 | 6,462 | -3,585 | <,001 | ,012 |
| NECT-NECI | 3,167 | 6,462 | ,490 | ,624 | 1,000 |
| NECT-FCT | -6,500 | 6,462 | -1,006 | ,314 | 1,000 |
| NECT-NEEU | -9,500 | 6,462 | -1,470 | ,142 | 1,000 |
| NECT-FEG | -12,500 | 6,462 | -1,934 | ,053 | 1,000 |
| NECT-FCA | -15,833 | 6,462 | -2,450 | ,014 | ,514 |
| NECT-FCI | -18,167 | 6,462 | -2,811 | ,005 | ,178 |
| NECT-Uncoated | -21,500 | 6,462 | -3,327 | <,001 | ,032 |
| NECI-FCT | -3,333 | 6,462 | -,516 | ,606 | 1,000 |
| NECI-NEEU | -6,333 | 6,462 | -,980 | ,327 | 1,000 |
| NECI-FEG | -9,333 | 6,462 | -1,444 | ,149 | 1,000 |
| NECI-FCA | -12,667 | 6,462 | -1,960 | ,050 | 1,000 |
| NECI-FCI | -15,000 | 6,462 | -2,321 | ,020 | ,730 |
| NECI-Uncoated | -18,333 | 6,462 | -2,837 | ,005 | ,164 |
| FCT-NEEU | 3,000 | 6,462 | ,464 | ,642 | 1,000 |
| FCT-FEG | -6,000 | 6,462 | -,929 | ,353 | 1,000 |
| FCT-FCA | 9,333 | 6,462 | 1,444 | ,149 | 1,000 |
| FCT-FCI | 11,667 | 6,462 | 1,805 | ,071 | 1,000 |
| FCT-Uncoated | -15,000 | 6,462 | -2,321 | ,020 | ,730 |
| NEEU-FEG | -3,000 | 6,462 | -,464 | ,642 | 1,000 |
| NEEU-FCA | -6,333 | 6,462 | -,980 | ,327 | 1,000 |
| NEEU-FCI | -8,667 | 6,462 | -1,341 | ,180 | 1,000 |
| NEEU-Uncoated | -12,000 | 6,462 | -1,857 | ,063 | 1,000 |
| FEG-FCA | 3,333 | 6,462 | ,516 | ,606 | 1,000 |
| FEG-FCI | 5,667 | 6,462 | ,877 | ,381 | 1,000 |
| FEG-Uncoated | -9,000 | 6,462 | -1,393 | ,164 | 1,000 |
| FCA-FCI | -2,333 | 6,462 | -,361 | ,718 | 1,000 |
| FCA-Uncoated | -5,667 | 6,462 | -,877 | ,381 | 1,000 |
| FCI-Uncoated | -3,333 | 6,462 | -,516 | ,606 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

**Day 6**

Supplementary Table 6 pH Day 6 Pairwise Comparisons of Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NECI | -3,000 | 6,470 | -,464 | ,643 | 1,000 |
| NECA-NECT | -6,000 | 6,470 | -,927 | ,354 | 1,000 |
| NECA-FCT | -9,833 | 6,470 | -1,520 | ,129 | 1,000 |
| NECA-NEEU | -11,167 | 6,470 | -1,726 | ,084 | 1,000 |
| NECA-FEG | -15,000 | 6,470 | -2,318 | ,020 | ,735 |
| NECA-FCA | -18,333 | 6,470 | -2,834 | ,005 | ,166 |
| NECA-FCI | -20,667 | 6,470 | -3,194 | ,001 | ,050 |
| NECA-Uncoated | -24,000 | 6,470 | -3,710 | <,001 | ,007 |
| NECI-NECT | -3,000 | 6,470 | -,464 | ,643 | 1,000 |
| NECI-FCT | -6,833 | 6,470 | -1,056 | ,291 | 1,000 |
| NECI-NEEU | -8,167 | 6,470 | -1,262 | ,207 | 1,000 |
| NECI-FEG | -12,000 | 6,470 | -1,855 | ,064 | 1,000 |
| NECI-FCA | -15,333 | 6,470 | -2,370 | ,018 | ,640 |
| NECI-FCI | -17,667 | 6,470 | -2,731 | ,006 | ,228 |
| NECI-Uncoated | -21,000 | 6,470 | -3,246 | ,001 | ,042 |
| NECT-FCT | -3,833 | 6,470 | -,592 | ,554 | 1,000 |
| NECT-NEEU | -5,167 | 6,470 | -,799 | ,425 | 1,000 |
| NECT-FEG | -9,000 | 6,470 | -1,391 | ,164 | 1,000 |
| NECT-FCA | -12,333 | 6,470 | -1,906 | ,057 | 1,000 |
| NECT-FCI | -14,667 | 6,470 | -2,267 | ,023 | ,842 |
| NECT-Uncoated | -18,000 | 6,470 | -2,782 | ,005 | ,194 |
| FCT-NEEU | 1,333 | 6,470 | ,206 | ,837 | 1,000 |
| FCT-FEG | -5,167 | 6,470 | -,799 | ,425 | 1,000 |
| FCT-FCA | 8,500 | 6,470 | 1,314 | ,189 | 1,000 |
| FCT-FCI | 10,833 | 6,470 | 1,674 | ,094 | 1,000 |
| FCT-Uncoated | -14,167 | 6,470 | -2,190 | ,029 | 1,000 |
| NEEU-FEG | -3,833 | 6,470 | -,592 | ,554 | 1,000 |
| NEEU-FCA | -7,167 | 6,470 | -1,108 | ,268 | 1,000 |
| NEEU-FCI | -9,500 | 6,470 | -1,468 | ,142 | 1,000 |
| NEEU-Uncoated | -12,833 | 6,470 | -1,984 | ,047 | 1,000 |
| FEG-FCA | 3,333 | 6,470 | ,515 | ,606 | 1,000 |
| FEG-FCI | 5,667 | 6,470 | ,876 | ,381 | 1,000 |
| FEG-Uncoated | -9,000 | 6,470 | -1,391 | ,164 | 1,000 |
| FCA-FCI | -2,333 | 6,470 | -,361 | ,718 | 1,000 |
| FCA-Uncoated | -5,667 | 6,470 | -,876 | ,381 | 1,000 |
| FCI-Uncoated | -3,333 | 6,470 | -,515 | ,606 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

Day 9

Supplementary Table 7 pH Day 9 Pairwise Comparisons of Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NECI | -3,333 | 6,460 | -,516 | ,606 | 1,000 |
| NECA-NECT | -5,667 | 6,460 | -,877 | ,380 | 1,000 |
| NECA-NEEU | -9,833 | 6,460 | -1,522 | ,128 | 1,000 |
| NECA-FCT | -11,167 | 6,460 | -1,729 | ,084 | 1,000 |
| NECA-FEG | -15,000 | 6,460 | -2,322 | ,020 | ,728 |
| NECA-FCA | -19,000 | 6,460 | -2,941 | ,003 | ,118 |
| NECA-FCI | -20,000 | 6,460 | -3,096 | ,002 | ,071 |
| NECA-Uncoated | -24,000 | 6,460 | -3,715 | <,001 | ,007 |
| NECI-NECT | -2,333 | 6,460 | -,361 | ,718 | 1,000 |
| NECI-NEEU | -6,500 | 6,460 | -1,006 | ,314 | 1,000 |
| NECI-FCT | -7,833 | 6,460 | -1,213 | ,225 | 1,000 |
| NECI-FEG | -11,667 | 6,460 | -1,806 | ,071 | 1,000 |
| NECI-FCA | -15,667 | 6,460 | -2,425 | ,015 | ,551 |
| NECI-FCI | -16,667 | 6,460 | -2,580 | ,010 | ,356 |
| NECI-Uncoated | -20,667 | 6,460 | -3,199 | ,001 | ,050 |
| NECT-NEEU | -4,167 | 6,460 | -,645 | ,519 | 1,000 |
| NECT-FCT | -5,500 | 6,460 | -,851 | ,395 | 1,000 |
| NECT-FEG | -9,333 | 6,460 | -1,445 | ,149 | 1,000 |
| NECT-FCA | -13,333 | 6,460 | -2,064 | ,039 | 1,000 |
| NECT-FCI | -14,333 | 6,460 | -2,219 | ,027 | ,954 |
| NECT-Uncoated | -18,333 | 6,460 | -2,838 | ,005 | ,163 |
| NEEU-FCT | -1,333 | 6,460 | -,206 | ,836 | 1,000 |
| NEEU-FEG | -5,167 | 6,460 | -,800 | ,424 | 1,000 |
| NEEU-FCA | -9,167 | 6,460 | -1,419 | ,156 | 1,000 |
| NEEU-FCI | -10,167 | 6,460 | -1,574 | ,116 | 1,000 |
| NEEU-Uncoated | -14,167 | 6,460 | -2,193 | ,028 | 1,000 |
| FCT-FEG | -3,833 | 6,460 | -,593 | ,553 | 1,000 |
| FCT-FCA | 7,833 | 6,460 | 1,213 | ,225 | 1,000 |
| FCT-FCI | 8,833 | 6,460 | 1,367 | ,171 | 1,000 |
| FCT-Uncoated | -12,833 | 6,460 | -1,987 | ,047 | 1,000 |
| FEG-FCA | 4,000 | 6,460 | ,619 | ,536 | 1,000 |
| FEG-FCI | 5,000 | 6,460 | ,774 | ,439 | 1,000 |
| FEG-Uncoated | -9,000 | 6,460 | -1,393 | ,164 | 1,000 |
| FCA-FCI | -1,000 | 6,460 | -,155 | ,877 | 1,000 |
| FCA-Uncoated | -5,000 | 6,460 | -,774 | ,439 | 1,000 |
| FCI-Uncoated | -4,000 | 6,460 | -,619 | ,536 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

## Lipid Oxidation

Supplementary Table 8 TBARS Day 3 Pairwise Comparisons of Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NEEU | -3,000 | 6,478 | -,463 | ,643 | 1,000 |
| NECA-NECT | -7,000 | 6,478 | -1,081 | ,280 | 1,000 |
| NECA-NECI | -9,833 | 6,478 | -1,518 | ,129 | 1,000 |
| NECA-FEG | -10,167 | 6,478 | -1,569 | ,117 | 1,000 |
| NECA-FCA | -15,000 | 6,478 | -2,316 | ,021 | ,741 |
| NECA-FCI | -18,000 | 6,478 | -2,779 | ,005 | ,196 |
| NECA-FCT | -21,000 | 6,478 | -3,242 | ,001 | ,043 |
| NECA-Uncoated | -24,000 | 6,478 | -3,705 | <,001 | ,008 |
| NEEU-NECT | 4,000 | 6,478 | ,617 | ,537 | 1,000 |
| NEEU-NECI | 6,833 | 6,478 | 1,055 | ,291 | 1,000 |
| NEEU-FEG | -7,167 | 6,478 | -1,106 | ,269 | 1,000 |
| NEEU-FCA | -12,000 | 6,478 | -1,852 | ,064 | 1,000 |
| NEEU-FCI | -15,000 | 6,478 | -2,316 | ,021 | ,741 |
| NEEU-FCT | -18,000 | 6,478 | -2,779 | ,005 | ,196 |
| NEEU-Uncoated | -21,000 | 6,478 | -3,242 | ,001 | ,043 |
| NECT-NECI | 2,833 | 6,478 | ,437 | ,662 | 1,000 |
| NECT-FEG | -3,167 | 6,478 | -,489 | ,625 | 1,000 |
| NECT-FCA | -8,000 | 6,478 | -1,235 | ,217 | 1,000 |
| NECT-FCI | -11,000 | 6,478 | -1,698 | ,089 | 1,000 |
| NECT-FCT | -14,000 | 6,478 | -2,161 | ,031 | 1,000 |
| NECT-Uncoated | -17,000 | 6,478 | -2,624 | ,009 | ,313 |
| NECI-FEG | -,333 | 6,478 | -,051 | ,959 | 1,000 |
| NECI-FCA | -5,167 | 6,478 | -,798 | ,425 | 1,000 |
| NECI-FCI | -8,167 | 6,478 | -1,261 | ,207 | 1,000 |
| NECI-FCT | -11,167 | 6,478 | -1,724 | ,085 | 1,000 |
| NECI-Uncoated | -14,167 | 6,478 | -2,187 | ,029 | 1,000 |
| FEG-FCA | 4,833 | 6,478 | ,746 | ,456 | 1,000 |
| FEG-FCI | 7,833 | 6,478 | 1,209 | ,227 | 1,000 |
| FEG-FCT | 10,833 | 6,478 | 1,672 | ,094 | 1,000 |
| FEG-Uncoated | -13,833 | 6,478 | -2,136 | ,033 | 1,000 |
| FCA-FCI | -3,000 | 6,478 | -,463 | ,643 | 1,000 |
| FCA-FCT | -6,000 | 6,478 | -,926 | ,354 | 1,000 |
| FCA-Uncoated | -9,000 | 6,478 | -1,389 | ,165 | 1,000 |
| FCI-FCT | -3,000 | 6,478 | -,463 | ,643 | 1,000 |
| FCI-Uncoated | -6,000 | 6,478 | -,926 | ,354 | 1,000 |
| FCT-Uncoated | -3,000 | 6,478 | -,463 | ,643 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

Supplementary Table 9 TBARS Day 6 Pairwise Comparisons of Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NEEU | -3,000 | 6,476 | -,463 | ,643 | 1,000 |
| NECA-NECT | -6,000 | 6,476 | -,927 | ,354 | 1,000 |
| NECA-FCA | -10,333 | 6,476 | -1,596 | ,111 | 1,000 |
| NECA-NECI | -10,667 | 6,476 | -1,647 | ,100 | 1,000 |
| NECA-FEG | -15,000 | 6,476 | -2,316 | ,021 | ,739 |
| NECA-FCT | -18,000 | 6,476 | -2,780 | ,005 | ,196 |
| NECA-FCI | -21,000 | 6,476 | -3,243 | ,001 | ,043 |
| NECA-Uncoated | -24,000 | 6,476 | -3,706 | <,001 | ,008 |
| NEEU-NECT | 3,000 | 6,476 | ,463 | ,643 | 1,000 |
| NEEU-FCA | -7,333 | 6,476 | -1,132 | ,257 | 1,000 |
| NEEU-NECI | 7,667 | 6,476 | 1,184 | ,236 | 1,000 |
| NEEU-FEG | -12,000 | 6,476 | -1,853 | ,064 | 1,000 |
| NEEU-FCT | -15,000 | 6,476 | -2,316 | ,021 | ,739 |
| NEEU-FCI | -18,000 | 6,476 | -2,780 | ,005 | ,196 |
| NEEU-Uncoated | -21,000 | 6,476 | -3,243 | ,001 | ,043 |
| NECT-FCA | -4,333 | 6,476 | -,669 | ,503 | 1,000 |
| NECT-NECI | 4,667 | 6,476 | ,721 | ,471 | 1,000 |
| NECT-FEG | -9,000 | 6,476 | -1,390 | ,165 | 1,000 |
| NECT-FCT | -12,000 | 6,476 | -1,853 | ,064 | 1,000 |
| NECT-FCI | -15,000 | 6,476 | -2,316 | ,021 | ,739 |
| NECT-Uncoated | -18,000 | 6,476 | -2,780 | ,005 | ,196 |
| FCA-NECI | ,333 | 6,476 | ,051 | ,959 | 1,000 |
| FCA-FEG | -4,667 | 6,476 | -,721 | ,471 | 1,000 |
| FCA-FCT | -7,667 | 6,476 | -1,184 | ,236 | 1,000 |
| FCA-FCI | -10,667 | 6,476 | -1,647 | ,100 | 1,000 |
| FCA-Uncoated | -13,667 | 6,476 | -2,110 | ,035 | 1,000 |
| NECI-FEG | -4,333 | 6,476 | -,669 | ,503 | 1,000 |
| NECI-FCT | -7,333 | 6,476 | -1,132 | ,257 | 1,000 |
| NECI-FCI | -10,333 | 6,476 | -1,596 | ,111 | 1,000 |
| NECI-Uncoated | -13,333 | 6,476 | -2,059 | ,039 | 1,000 |
| FEG-FCT | 3,000 | 6,476 | ,463 | ,643 | 1,000 |
| FEG-FCI | 6,000 | 6,476 | ,927 | ,354 | 1,000 |
| FEG-Uncoated | -9,000 | 6,476 | -1,390 | ,165 | 1,000 |
| FCT-FCI | 3,000 | 6,476 | ,463 | ,643 | 1,000 |
| FCT-Uncoated | -6,000 | 6,476 | -,927 | ,354 | 1,000 |
| FCI-Uncoated | -3,000 | 6,476 | -,463 | ,643 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

Supplementary Table 10 Pairwise Comparisons of Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NEEU | -3,000 | 6,476 | -,463 | ,643 | 1,000 |
| NECA-NECT | -6,000 | 6,476 | -,927 | ,354 | 1,000 |
| NECA-FCA | -10,333 | 6,476 | -1,596 | ,111 | 1,000 |
| NECA-NECI | -10,667 | 6,476 | -1,647 | ,100 | 1,000 |
| NECA-FEG | -15,000 | 6,476 | -2,316 | ,021 | ,739 |
| NECA-FCT | -18,000 | 6,476 | -2,780 | ,005 | ,196 |
| NECA-FCI | -21,000 | 6,476 | -3,243 | ,001 | ,043 |
| NECA-Uncoated | -24,000 | 6,476 | -3,706 | <,001 | ,008 |
| NEEU-NECT | 3,000 | 6,476 | ,463 | ,643 | 1,000 |
| NEEU-FCA | -7,333 | 6,476 | -1,132 | ,257 | 1,000 |
| NEEU-NECI | 7,667 | 6,476 | 1,184 | ,236 | 1,000 |
| NEEU-FEG | -12,000 | 6,476 | -1,853 | ,064 | 1,000 |
| NEEU-FCT | -15,000 | 6,476 | -2,316 | ,021 | ,739 |
| NEEU-FCI | -18,000 | 6,476 | -2,780 | ,005 | ,196 |
| NEEU-Uncoated | -21,000 | 6,476 | -3,243 | ,001 | ,043 |
| NECT-FCA | -4,333 | 6,476 | -,669 | ,503 | 1,000 |
| NECT-NECI | 4,667 | 6,476 | ,721 | ,471 | 1,000 |
| NECT-FEG | -9,000 | 6,476 | -1,390 | ,165 | 1,000 |
| NECT-FCT | -12,000 | 6,476 | -1,853 | ,064 | 1,000 |
| NECT-FCI | -15,000 | 6,476 | -2,316 | ,021 | ,739 |
| NECT-Uncoated | -18,000 | 6,476 | -2,780 | ,005 | ,196 |
| FCA-NECI | ,333 | 6,476 | ,051 | ,959 | 1,000 |
| FCA-FEG | -4,667 | 6,476 | -,721 | ,471 | 1,000 |
| FCA-FCT | -7,667 | 6,476 | -1,184 | ,236 | 1,000 |
| FCA-FCI | -10,667 | 6,476 | -1,647 | ,100 | 1,000 |
| FCA-Uncoated | -13,667 | 6,476 | -2,110 | ,035 | 1,000 |
| NECI-FEG | -4,333 | 6,476 | -,669 | ,503 | 1,000 |
| NECI-FCT | -7,333 | 6,476 | -1,132 | ,257 | 1,000 |
| NECI-FCI | -10,333 | 6,476 | -1,596 | ,111 | 1,000 |
| NECI-Uncoated | -13,333 | 6,476 | -2,059 | ,039 | 1,000 |
| FEG-FCT | 3,000 | 6,476 | ,463 | ,643 | 1,000 |
| FEG-FCI | 6,000 | 6,476 | ,927 | ,354 | 1,000 |
| FEG-Uncoated | -9,000 | 6,476 | -1,390 | ,165 | 1,000 |
| FCT-FCI | 3,000 | 6,476 | ,463 | ,643 | 1,000 |
| FCT-Uncoated | -6,000 | 6,476 | -,927 | ,354 | 1,000 |
| FCI-Uncoated | -3,000 | 6,476 | -,463 | ,643 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

## L\*a\*b\*

L\* Day 3

Supplementary Table 11 L\* Day 3Pairwise Comparisons of Treatments

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| Uncoated-NEEU | 6,333 | 6,480 | ,977 | ,328 | 1,000 |
| Uncoated-FEG | 8,333 | 6,480 | 1,286 | ,198 | 1,000 |
| Uncoated-NECT | 9,667 | 6,480 | 1,492 | ,136 | 1,000 |
| Uncoated-NECI | 10,333 | 6,480 | 1,595 | ,111 | 1,000 |
| Uncoated-NECA | 11,000 | 6,480 | 1,698 | ,090 | 1,000 |
| Uncoated-FCT | 15,000 | 6,480 | 2,315 | ,021 | ,742 |
| Uncoated-FCI | 20,000 | 6,480 | 3,087 | ,002 | ,073 |
| Uncoated-FCA | 21,333 | 6,480 | 3,292 | <,001 | ,036 |
| NEEU-FEG | -2,000 | 6,480 | -,309 | ,758 | 1,000 |
| NEEU-NECT | 3,333 | 6,480 | ,514 | ,607 | 1,000 |
| NEEU-NECI | 4,000 | 6,480 | ,617 | ,537 | 1,000 |
| NEEU-NECA | 4,667 | 6,480 | ,720 | ,471 | 1,000 |
| NEEU-FCT | -8,667 | 6,480 | -1,337 | ,181 | 1,000 |
| NEEU-FCI | -13,667 | 6,480 | -2,109 | ,035 | 1,000 |
| NEEU-FCA | -15,000 | 6,480 | -2,315 | ,021 | ,742 |
| FEG-NECT | 1,333 | 6,480 | ,206 | ,837 | 1,000 |
| FEG-NECI | 2,000 | 6,480 | ,309 | ,758 | 1,000 |
| FEG-NECA | 2,667 | 6,480 | ,412 | ,681 | 1,000 |
| FEG-FCT | 6,667 | 6,480 | 1,029 | ,304 | 1,000 |
| FEG-FCI | 11,667 | 6,480 | 1,800 | ,072 | 1,000 |
| FEG-FCA | 13,000 | 6,480 | 2,006 | ,045 | 1,000 |
| NECT-NECI | ,667 | 6,480 | ,103 | ,918 | 1,000 |
| NECT-NECA | 1,333 | 6,480 | ,206 | ,837 | 1,000 |
| NECT-FCT | -5,333 | 6,480 | -,823 | ,410 | 1,000 |
| NECT-FCI | -10,333 | 6,480 | -1,595 | ,111 | 1,000 |
| NECT-FCA | -11,667 | 6,480 | -1,800 | ,072 | 1,000 |
| NECI-NECA | ,667 | 6,480 | ,103 | ,918 | 1,000 |
| NECI-FCT | -4,667 | 6,480 | -,720 | ,471 | 1,000 |
| NECI-FCI | -9,667 | 6,480 | -1,492 | ,136 | 1,000 |
| NECI-FCA | -11,000 | 6,480 | -1,698 | ,090 | 1,000 |
| NECA-FCT | -4,000 | 6,480 | -,617 | ,537 | 1,000 |
| NECA-FCI | -9,000 | 6,480 | -1,389 | ,165 | 1,000 |
| NECA-FCA | -10,333 | 6,480 | -1,595 | ,111 | 1,000 |
| FCT-FCI | 5,000 | 6,480 | ,772 | ,440 | 1,000 |
| FCT-FCA | 6,333 | 6,480 | ,977 | ,328 | 1,000 |
| FCI-FCA | 1,333 | 6,480 | ,206 | ,837 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

L\* Day 9

Supplementary Table 12 L\* Day 9Pairwise Comparisons of Treatments

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| Uncoated-FCT | 6,333 | 6,481 | ,977 | ,328 | 1,000 |
| Uncoated-FEG | 7,667 | 6,481 | 1,183 | ,237 | 1,000 |
| Uncoated-FCI | 8,333 | 6,481 | 1,286 | ,198 | 1,000 |
| Uncoated-NEEU | 11,667 | 6,481 | 1,800 | ,072 | 1,000 |
| Uncoated-NECT | 16,000 | 6,481 | 2,469 | ,014 | ,488 |
| Uncoated-NECI | 16,333 | 6,481 | 2,520 | ,012 | ,422 |
| Uncoated-NECA | 18,000 | 6,481 | 2,777 | ,005 | ,197 |
| Uncoated-FCA | 23,667 | 6,481 | 3,652 | <,001 | ,009 |
| FCT-FEG | -1,333 | 6,481 | -,206 | ,837 | 1,000 |
| FCT-FCI | 2,000 | 6,481 | ,309 | ,758 | 1,000 |
| FCT-NEEU | 5,333 | 6,481 | ,823 | ,411 | 1,000 |
| FCT-NECT | 9,667 | 6,481 | 1,492 | ,136 | 1,000 |
| FCT-NECI | 10,000 | 6,481 | 1,543 | ,123 | 1,000 |
| FCT-NECA | 11,667 | 6,481 | 1,800 | ,072 | 1,000 |
| FCT-FCA | 17,333 | 6,481 | 2,675 | ,007 | ,269 |
| FEG-FCI | ,667 | 6,481 | ,103 | ,918 | 1,000 |
| FEG-NEEU | 4,000 | 6,481 | ,617 | ,537 | 1,000 |
| FEG-NECT | 8,333 | 6,481 | 1,286 | ,198 | 1,000 |
| FEG-NECI | 8,667 | 6,481 | 1,337 | ,181 | 1,000 |
| FEG-NECA | 10,333 | 6,481 | 1,594 | ,111 | 1,000 |
| FEG-FCA | 16,000 | 6,481 | 2,469 | ,014 | ,488 |
| FCI-NEEU | 3,333 | 6,481 | ,514 | ,607 | 1,000 |
| FCI-NECT | 7,667 | 6,481 | 1,183 | ,237 | 1,000 |
| FCI-NECI | 8,000 | 6,481 | 1,234 | ,217 | 1,000 |
| FCI-NECA | 9,667 | 6,481 | 1,492 | ,136 | 1,000 |
| FCI-FCA | 15,333 | 6,481 | 2,366 | ,018 | ,647 |
| NEEU-NECT | 4,333 | 6,481 | ,669 | ,504 | 1,000 |
| NEEU-NECI | 4,667 | 6,481 | ,720 | ,471 | 1,000 |
| NEEU-NECA | 6,333 | 6,481 | ,977 | ,328 | 1,000 |
| NEEU-FCA | -12,000 | 6,481 | -1,852 | ,064 | 1,000 |
| NECT-NECI | ,333 | 6,481 | ,051 | ,959 | 1,000 |
| NECT-NECA | 2,000 | 6,481 | ,309 | ,758 | 1,000 |
| NECT-FCA | -7,667 | 6,481 | -1,183 | ,237 | 1,000 |
| NECI-NECA | 1,667 | 6,481 | ,257 | ,797 | 1,000 |
| NECI-FCA | -7,333 | 6,481 | -1,132 | ,258 | 1,000 |
| NECA-FCA | -5,667 | 6,481 | -,874 | ,382 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

a\* Day 9

Supplementary Table 13 L\* Day 9Pairwise Comparisons of Treatments

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| Uncoated-NECA | 8,000 | 6,481 | 1,234 | ,217 | 1,000 |
| Uncoated-NECI | 8,333 | 6,481 | 1,286 | ,198 | 1,000 |
| Uncoated-NEEU | 8,333 | 6,481 | 1,286 | ,198 | 1,000 |
| Uncoated-FEG | 10,000 | 6,481 | 1,543 | ,123 | 1,000 |
| **Uncoated-FCA** | **10,667** | **6,481** | **1,646** | **,100** | 1,000 |
| Uncoated-NECT | 11,667 | 6,481 | 1,800 | ,072 | 1,000 |
| Uncoated-FCI | 19,667 | 6,481 | 3,035 | ,002 | ,087 |
| Uncoated-FCT | 22,333 | 6,481 | 3,446 | <,001 | ,020 |
| NECA-NEEU | -,333 | 6,481 | -,051 | ,959 | 1,000 |
| NECA-NECI | -,333 | 6,481 | -,051 | ,959 | 1,000 |
| NECA-FEG | -2,000 | 6,481 | -,309 | ,758 | 1,000 |
| NECA-FCA | -2,667 | 6,481 | -,411 | ,681 | 1,000 |
| NECA-NECT | -3,667 | 6,481 | -,566 | ,572 | 1,000 |
| NECA-FCI | -11,667 | 6,481 | -1,800 | ,072 | 1,000 |
| NECA-FCT | -14,333 | 6,481 | -2,212 | ,027 | ,972 |
| NECI-NEEU | ,000 | 6,481 | ,000 | 1,000 | 1,000 |
| NECI-FCA | -2,333 | 6,481 | -,360 | ,719 | 1,000 |
| NECI-NECT | -3,333 | 6,481 | -,514 | ,607 | 1,000 |
| NECI-FCI | -11,333 | 6,481 | -1,749 | ,080 | 1,000 |
| NEEU-FEG | -1,667 | 6,481 | -,257 | ,797 | 1,000 |
| NEEU-FCA | -2,333 | 6,481 | -,360 | ,719 | 1,000 |
| NEEU-NECT | 3,333 | 6,481 | ,514 | ,607 | 1,000 |
| NEEU-FCI | -11,333 | 6,481 | -1,749 | ,080 | 1,000 |
| NEEU-FCT | -14,000 | 6,481 | -2,160 | ,031 | 1,000 |
| NECI-FEG | -1,667 | 6,481 | -,257 | ,797 | 1,000 |
| NECI-FCT | -14,000 | 6,481 | -2,160 | ,031 | 1,000 |
| FEG-FCA | ,667 | 6,481 | ,103 | ,918 | 1,000 |
| FEG-NECT | 1,667 | 6,481 | ,257 | ,797 | 1,000 |
| FEG-FCI | 9,667 | 6,481 | 1,492 | ,136 | 1,000 |
| FEG-FCT | 12,333 | 6,481 | 1,903 | ,057 | 1,000 |
| FCA-NECT | 1,000 | 6,481 | ,154 | ,877 | 1,000 |
| FCA-FCI | -9,000 | 6,481 | -1,389 | ,165 | 1,000 |
| FCA-FCT | -11,667 | 6,481 | -1,800 | ,072 | 1,000 |
| NECT-FCI | -8,000 | 6,481 | -1,234 | ,217 | 1,000 |
| NECT-FCT | -10,667 | 6,481 | -1,646 | ,100 | 1,000 |
| FCI-FCT | -2,667 | 6,481 | -,411 | ,681 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

b\* Day 3

Supplementary Table 14 b\* day 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| Uncoated-NEEU | 3,667 | 6,480 | ,566 | ,571 | 1,000 |
| Uncoated-NECT | 8,667 | 6,480 | 1,337 | ,181 | 1,000 |
| Uncoated-NECI | 10,000 | 6,480 | 1,543 | ,123 | 1,000 |
| Uncoated-NECA | 11,333 | 6,480 | 1,749 | ,080 | 1,000 |
| Uncoated-FEG | 12,000 | 6,480 | 1,852 | ,064 | 1,000 |
| Uncoated-FCI | 16,000 | 6,480 | 2,469 | ,014 | ,487 |
| Uncoated-FCA | 17,667 | 6,480 | 2,726 | ,006 | ,230 |
| Uncoated-FCT | 22,667 | 6,480 | 3,498 | <,001 | ,017 |
| NEEU-NECT | 5,000 | 6,480 | ,772 | ,440 | 1,000 |
| NEEU-NECI | 6,333 | 6,480 | ,977 | ,328 | 1,000 |
| NEEU-NECA | 7,667 | 6,480 | 1,183 | ,237 | 1,000 |
| NEEU-FEG | -8,333 | 6,480 | -1,286 | ,198 | 1,000 |
| NEEU-FCI | -12,333 | 6,480 | -1,903 | ,057 | 1,000 |
| NEEU-FCA | -14,000 | 6,480 | -2,161 | ,031 | 1,000 |
| NEEU-FCT | -19,000 | 6,480 | -2,932 | ,003 | ,121 |
| NECT-NECI | 1,333 | 6,480 | ,206 | ,837 | 1,000 |
| NECT-NECA | 2,667 | 6,480 | ,412 | ,681 | 1,000 |
| NECT-FEG | -3,333 | 6,480 | -,514 | ,607 | 1,000 |
| NECT-FCI | -7,333 | 6,480 | -1,132 | ,258 | 1,000 |
| NECT-FCA | -9,000 | 6,480 | -1,389 | ,165 | 1,000 |
| NECT-FCT | -14,000 | 6,480 | -2,161 | ,031 | 1,000 |
| NECI-NECA | 1,333 | 6,480 | ,206 | ,837 | 1,000 |
| NECI-FEG | -2,000 | 6,480 | -,309 | ,758 | 1,000 |
| NECI-FCI | -6,000 | 6,480 | -,926 | ,354 | 1,000 |
| NECI-FCA | -7,667 | 6,480 | -1,183 | ,237 | 1,000 |
| NECI-FCT | -12,667 | 6,480 | -1,955 | ,051 | 1,000 |
| NECA-FEG | -,667 | 6,480 | -,103 | ,918 | 1,000 |
| NECA-FCI | -4,667 | 6,480 | -,720 | ,471 | 1,000 |
| NECA-FCA | -6,333 | 6,480 | -,977 | ,328 | 1,000 |
| NECA-FCT | -11,333 | 6,480 | -1,749 | ,080 | 1,000 |
| FEG-FCI | 4,000 | 6,480 | ,617 | ,537 | 1,000 |
| FEG-FCA | 5,667 | 6,480 | ,875 | ,382 | 1,000 |
| FEG-FCT | 10,667 | 6,480 | 1,646 | ,100 | 1,000 |
| FCI-FCA | 1,667 | 6,480 | ,257 | ,797 | 1,000 |
| FCI-FCT | -6,667 | 6,480 | -1,029 | ,304 | 1,000 |
| FCA-FCT | -5,000 | 6,480 | -,772 | ,440 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| FEG-Uncoated | -3,000 | 6,481 | -,463 | ,643 | 1,000 |
| FEG-FCA | 3,000 | 6,481 | ,463 | ,643 | 1,000 |
| FEG-NECI | 4,000 | 6,481 | ,617 | ,537 | 1,000 |
| FEG-NEEU | 4,333 | 6,481 | ,669 | ,504 | 1,000 |
| FEG-NECA | 10,000 | 6,481 | 1,543 | ,123 | 1,000 |
| FEG-FCI | 11,333 | 6,481 | 1,749 | ,080 | 1,000 |
| FEG-NECT | 13,667 | 6,481 | 2,109 | ,035 | 1,000 |
| FEG-FCT | 19,667 | 6,481 | 3,035 | ,002 | ,087 |
| FCA-FCI | -8,333 | 6,481 | -1,286 | ,198 | 1,000 |
| Uncoated-NEEU | 1,333 | 6,481 | ,206 | ,837 | 1,000 |
| FCA-NEEU | 1,333 | 6,481 | ,206 | ,837 | 1,000 |
| FCA-NECA | 7,000 | 6,481 | 1,080 | ,280 | 1,000 |
| Uncoated-NECI | 1,000 | 6,481 | ,154 | ,877 | 1,000 |
| Uncoated-NECA | 7,000 | 6,481 | 1,080 | ,280 | 1,000 |
| Uncoated-NECT | 10,667 | 6,481 | 1,646 | ,100 | 1,000 |
| FCA-Uncoated | ,000 | 6,481 | ,000 | 1,000 | 1,000 |
| FCA-NECI | 1,000 | 6,481 | ,154 | ,877 | 1,000 |
| FCA-NECT | 10,667 | 6,481 | 1,646 | ,100 | 1,000 |
| FCA-FCT | -16,667 | 6,481 | -2,572 | ,010 | ,364 |
| Uncoated-FCI | 8,333 | 6,481 | 1,286 | ,198 | 1,000 |
| Uncoated-FCT | 16,667 | 6,481 | 2,572 | ,010 | ,364 |
| NECI-NEEU | -,333 | 6,481 | -,051 | ,959 | 1,000 |
| NECI-NECA | 6,000 | 6,481 | ,926 | ,355 | 1,000 |
| NECI-FCI | -7,333 | 6,481 | -1,132 | ,258 | 1,000 |
| NECI-NECT | -9,667 | 6,481 | -1,492 | ,136 | 1,000 |
| NECI-FCT | -15,667 | 6,481 | -2,417 | ,016 | ,563 |
| NEEU-NECA | 5,667 | 6,481 | ,874 | ,382 | 1,000 |
| NEEU-FCI | -7,000 | 6,481 | -1,080 | ,280 | 1,000 |
| NEEU-NECT | 9,333 | 6,481 | 1,440 | ,150 | 1,000 |
| NEEU-FCT | -15,333 | 6,481 | -2,366 | ,018 | ,647 |
| NECA-FCI | -1,333 | 6,481 | -,206 | ,837 | 1,000 |
| NECA-NECT | -3,667 | 6,481 | -,566 | ,572 | 1,000 |
| NECA-FCT | -9,667 | 6,481 | -1,492 | ,136 | 1,000 |
| FCI-NECT | 2,333 | 6,481 | ,360 | ,719 | 1,000 |
| FCI-FCT | -8,333 | 6,481 | -1,286 | ,198 | 1,000 |
| NECT-FCT | -6,000 | 6,481 | -,926 | ,355 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

## TVC

Supplementary Table 15 TVC – Day 3 Pairwise Comparisons

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment - Day 3** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NECI | -3,000 | 6,476 | -0,463 | 0,643 | 1,000 |
| NECA-NEEU | -6,000 | 6,476 | -0,927 | 0,354 | 1,000 |
| NECA-FCI | -9,000 | 6,476 | -1,390 | 0,165 | 1,000 |
| NECA-NECT | -12,000 | 6,476 | -1,853 | 0,064 | 1,000 |
| NECA-FEG | -15,000 | 6,476 | -2,316 | 0,021 | 0,739 |
| NECA-FCT | -18,000 | 6,476 | -2,780 | 0,005 | 0,196 |
| NECA-FCA | -21,000 | 6,476 | -3,243 | 0,001 | 0,043 |
| NECA-Uncoated | -24,000 | 6,476 | -3,706 | 0,000 | 0,008 |
| NECI-NEEU | -3,000 | 6,476 | -0,463 | 0,643 | 1,000 |
| NECI-FCI | -6,000 | 6,476 | -0,927 | 0,354 | 1,000 |
| NECI-NECT | -9,000 | 6,476 | -1,390 | 0,165 | 1,000 |
| NECI-FEG | -12,000 | 6,476 | -1,853 | 0,064 | 1,000 |
| NECI-FCT | -15,000 | 6,476 | -2,316 | 0,021 | 0,739 |
| NECI-FCA | -18,000 | 6,476 | -2,780 | 0,005 | 0,196 |
| NECI-Uncoated | -21,000 | 6,476 | -3,243 | 0,001 | 0,043 |
| NEEU-FCI | -3,000 | 6,476 | -0,463 | 0,643 | 1,000 |
| NEEU-NECT | 6,000 | 6,476 | 0,927 | 0,354 | 1,000 |
| NEEU-FEG | -9,000 | 6,476 | -1,390 | 0,165 | 1,000 |
| NEEU-FCT | -12,000 | 6,476 | -1,853 | 0,064 | 1,000 |
| NEEU-FCA | -15,000 | 6,476 | -2,316 | 0,021 | 0,739 |
| NEEU-Uncoated | -18,000 | 6,476 | -2,780 | 0,005 | 0,196 |
| FCI-NECT | 3,000 | 6,476 | 0,463 | 0,643 | 1,000 |
| FCI-FEG | -6,000 | 6,476 | -0,927 | 0,354 | 1,000 |
| FCI-FCT | -9,000 | 6,476 | -1,390 | 0,165 | 1,000 |
| FCI-FCA | 12,000 | 6,476 | 1,853 | 0,064 | 1,000 |
| FCI-Uncoated | -15,000 | 6,476 | -2,316 | 0,021 | 0,739 |
| NECT-FEG | -3,000 | 6,476 | -0,463 | 0,643 | 1,000 |
| NECT-FCT | -6,000 | 6,476 | -0,927 | 0,354 | 1,000 |
| NECT-FCA | -9,000 | 6,476 | -1,390 | 0,165 | 1,000 |
| NECT-Uncoated | -12,000 | 6,476 | -1,853 | 0,064 | 1,000 |
| FEG-FCT | 3,000 | 6,476 | 0,463 | 0,643 | 1,000 |
| FEG-FCA | 6,000 | 6,476 | 0,927 | 0,354 | 1,000 |
| FEG-Uncoated | -9,000 | 6,476 | -1,390 | 0,165 | 1,000 |
| FCT-FCA | 3,000 | 6,476 | 0,463 | 0,643 | 1,000 |
| FCT-Uncoated | -6,000 | 6,476 | -0,927 | 0,354 | 1,000 |
| FCA-Uncoated | -3,000 | 6,476 | -0,463 | 0,643 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

Supplementary Table 16 TVC - Day 6 Pairwise Comparisons of Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment - Day 6** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NEEU | -3,000 | 6,475 | -0,463 | 0,643 | 1,000 |
| NECA-NECT | -6,000 | 6,475 | -0,927 | 0,354 | 1,000 |
| NECA-NECI | -9,000 | 6,475 | -1,390 | 0,165 | 1,000 |
| NECA-FCA | -12,000 | 6,475 | -1,853 | 0,064 | 1,000 |
| NECA-FEG | -15,000 | 6,475 | -2,317 | 0,021 | 0,739 |
| NECA-FCI | -18,000 | 6,475 | -2,780 | 0,005 | 0,196 |
| NECA-FCT | -21,000 | 6,475 | -3,243 | 0,001 | 0,043 |
| NECA-Uncoated | -24,000 | 6,475 | -3,707 | 0,000 | 0,008 |
| NEEU-NECT | 3,000 | 6,475 | 0,463 | 0,643 | 1,000 |
| NEEU-NECI | 6,000 | 6,475 | 0,927 | 0,354 | 1,000 |
| NEEU-FCA | -9,000 | 6,475 | -1,390 | 0,165 | 1,000 |
| NEEU-FEG | -12,000 | 6,475 | -1,853 | 0,064 | 1,000 |
| NEEU-FCI | -15,000 | 6,475 | -2,317 | 0,021 | 0,739 |
| NEEU-FCT | -18,000 | 6,475 | -2,780 | 0,005 | 0,196 |
| NEEU-Uncoated | -21,000 | 6,475 | -3,243 | 0,001 | 0,043 |
| NECT-NECI | 3,000 | 6,475 | 0,463 | 0,643 | 1,000 |
| NECT-FCA | -6,000 | 6,475 | -0,927 | 0,354 | 1,000 |
| NECT-FEG | -9,000 | 6,475 | -1,390 | 0,165 | 1,000 |
| NECT-FCI | -12,000 | 6,475 | -1,853 | 0,064 | 1,000 |
| NECT-FCT | -15,000 | 6,475 | -2,317 | 0,021 | 0,739 |
| NECT-Uncoated | -18,000 | 6,475 | -2,780 | 0,005 | 0,196 |
| NECI-FCA | -3,000 | 6,475 | -0,463 | 0,643 | 1,000 |
| NECI-FEG | -6,000 | 6,475 | -0,927 | 0,354 | 1,000 |
| NECI-FCI | -9,000 | 6,475 | -1,390 | 0,165 | 1,000 |
| NECI-FCT | -12,000 | 6,475 | -1,853 | 0,064 | 1,000 |
| NECI-Uncoated | -15,000 | 6,475 | -2,317 | 0,021 | 0,739 |
| FCA-FEG | -3,000 | 6,475 | -0,463 | 0,643 | 1,000 |
| FCA-FCI | -6,000 | 6,475 | -0,927 | 0,354 | 1,000 |
| FCA-FCT | -9,000 | 6,475 | -1,390 | 0,165 | 1,000 |
| FCA-Uncoated | -12,000 | 6,475 | -1,853 | 0,064 | 1,000 |
| FEG-FCI | 3,000 | 6,475 | 0,463 | 0,643 | 1,000 |
| FEG-FCT | 6,000 | 6,475 | 0,927 | 0,354 | 1,000 |
| FEG-Uncoated | -9,000 | 6,475 | -1,390 | 0,165 | 1,000 |
| FCI-FCT | -3,000 | 6,475 | -0,463 | 0,643 | 1,000 |
| FCI-Uncoated | -6,000 | 6,475 | -0,927 | 0,354 | 1,000 |
| FCT-Uncoated | -3,000 | 6,475 | -0,463 | 0,643 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons of Treatment - Day 9** | | | | | |
| Sample 1-Sample 2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig.a |
| NECA-NEEU | -3,000 | 6,474 | -0,463 | 0,643 | 1,000 |
| NECA-NECT | -6,000 | 6,474 | -0,927 | 0,354 | 1,000 |
| NECA-NECI | -9,000 | 6,474 | -1,390 | 0,164 | 1,000 |
| NECA-FCA | -12,000 | 6,474 | -1,854 | 0,064 | 1,000 |
| NECA-FEG | -15,000 | 6,474 | -2,317 | 0,021 | 0,738 |
| NECA-FCT | -18,000 | 6,474 | -2,780 | 0,005 | 0,195 |
| NECA-FCI | -21,000 | 6,474 | -3,244 | 0,001 | 0,042 |
| NECA-Uncoated | -24,000 | 6,474 | -3,707 | 0,000 | 0,008 |
| NEEU-NECT | 3,000 | 6,474 | 0,463 | 0,643 | 1,000 |
| NEEU-NECI | 6,000 | 6,474 | 0,927 | 0,354 | 1,000 |
| NEEU-FCA | -9,000 | 6,474 | -1,390 | 0,164 | 1,000 |
| NEEU-FEG | -12,000 | 6,474 | -1,854 | 0,064 | 1,000 |
| NEEU-FCT | -15,000 | 6,474 | -2,317 | 0,021 | 0,738 |
| NEEU-FCI | -18,000 | 6,474 | -2,780 | 0,005 | 0,195 |
| NEEU-Uncoated | -21,000 | 6,474 | -3,244 | 0,001 | 0,042 |
| NECT-NECI | 3,000 | 6,474 | 0,463 | 0,643 | 1,000 |
| NECT-FCA | -6,000 | 6,474 | -0,927 | 0,354 | 1,000 |
| NECT-FEG | -9,000 | 6,474 | -1,390 | 0,164 | 1,000 |
| NECT-FCT | -12,000 | 6,474 | -1,854 | 0,064 | 1,000 |
| NECT-FCI | -15,000 | 6,474 | -2,317 | 0,021 | 0,738 |
| NECT-Uncoated | -18,000 | 6,474 | -2,780 | 0,005 | 0,195 |
| NECI-FCA | -3,000 | 6,474 | -0,463 | 0,643 | 1,000 |
| NECI-FEG | -6,000 | 6,474 | -0,927 | 0,354 | 1,000 |
| NECI-FCT | -9,000 | 6,474 | -1,390 | 0,164 | 1,000 |
| NECI-FCI | -12,000 | 6,474 | -1,854 | 0,064 | 1,000 |
| NECI-Uncoated | -15,000 | 6,474 | -2,317 | 0,021 | 0,738 |
| FCA-FEG | -3,000 | 6,474 | -0,463 | 0,643 | 1,000 |
| FCA-FCT | -6,000 | 6,474 | -0,927 | 0,354 | 1,000 |
| FCA-FCI | -9,000 | 6,474 | -1,390 | 0,164 | 1,000 |
| FCA-Uncoated | -12,000 | 6,474 | -1,854 | 0,064 | 1,000 |
| FEG-FCT | 3,000 | 6,474 | 0,463 | 0,643 | 1,000 |
| FEG-FCI | 6,000 | 6,474 | 0,927 | 0,354 | 1,000 |
| FEG-Uncoated | -9,000 | 6,474 | -1,390 | 0,164 | 1,000 |
| FCT-FCI | 3,000 | 6,474 | 0,463 | 0,643 | 1,000 |
| FCT-Uncoated | -6,000 | 6,474 | -0,927 | 0,354 | 1,000 |
| FCI-Uncoated | -3,000 | 6,474 | -0,463 | 0,643 | 1,000 |
| Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.  Asymptotic significances (2-sided tests) are displayed. The significance level is ,050. | | | | | |
| a. Significance values have been adjusted by the Bonferroni correction for multiple tests. | | | | | |

Supplementary Table 17 Tuckey HSD pairwise comparison among treatments

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Multiple Comparisons** | | | | | | | |
| Tukey HSD | | | | | | | |
| Dependent Variable | (I) Treatment | (J) Treatment | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| Results\_Appearence | NECA | NECI | ,02857 | ,054433 | 1,000 | -,14258 | ,19972 |
| NECT | ,17143\* | ,054433 | ,049 | ,00028 | ,34258 |
| NEEU | ,15238 | ,054433 | ,124 | -,01877 | ,32353 |
| FCA | ,32857\* | ,054433 | <,001 | ,15742 | ,49972 |
| FCI | ,25714\* | ,054433 | <,001 | ,08599 | ,42829 |
| FCT | ,31429\* | ,054433 | <,001 | ,14314 | ,48543 |
| FEU | ,28571\* | ,054433 | <,001 | ,11457 | ,45686 |
| Uncoated | 1,10952\* | ,054433 | <,001 | ,93838 | 1,28067 |
| NECI | NECA | -,02857 | ,054433 | 1,000 | -,19972 | ,14258 |
| NECT | ,14286 | ,054433 | ,185 | -,02829 | ,31401 |
| NEEU | ,12381 | ,054433 | ,364 | -,04734 | ,29496 |
| FCA | ,30000\* | ,054433 | <,001 | ,12885 | ,47115 |
| FCI | ,22857\* | ,054433 | ,001 | ,05742 | ,39972 |
| FCT | ,28571\* | ,054433 | <,001 | ,11457 | ,45686 |
| FEU | ,25714\* | ,054433 | <,001 | ,08599 | ,42829 |
| Uncoated | 1,08095\* | ,054433 | <,001 | ,90980 | 1,25210 |
| NECT | NECA | -,17143\* | ,054433 | ,049 | -,34258 | -,00028 |
| NECI | -,14286 | ,054433 | ,185 | -,31401 | ,02829 |
| NEEU | -,01905 | ,054433 | 1,000 | -,19020 | ,15210 |
| FCA | ,15714 | ,054433 | ,100 | -,01401 | ,32829 |
| FCI | ,08571 | ,054433 | ,817 | -,08543 | ,25686 |
| FCT | ,14286 | ,054433 | ,185 | -,02829 | ,31401 |
| FEU | ,11429 | ,054433 | ,477 | -,05686 | ,28543 |
| Uncoated | ,93810\* | ,054433 | <,001 | ,76695 | 1,10924 |
| NEEU | NECA | -,15238 | ,054433 | ,124 | -,32353 | ,01877 |
| NECI | -,12381 | ,054433 | ,364 | -,29496 | ,04734 |
| NECT | ,01905 | ,054433 | 1,000 | -,15210 | ,19020 |
| FCA | ,17619\* | ,054433 | ,038 | ,00504 | ,34734 |
| FCI | ,10476 | ,054433 | ,598 | -,06639 | ,27591 |
| FCT | ,16190 | ,054433 | ,080 | -,00924 | ,33305 |
| FEU | ,13333 | ,054433 | ,265 | -,03782 | ,30448 |
| Uncoated | ,95714\* | ,054433 | <,001 | ,78599 | 1,12829 |
| FCA | NECA | -,32857\* | ,054433 | <,001 | -,49972 | -,15742 |
| NECI | -,30000\* | ,054433 | <,001 | -,47115 | -,12885 |
| NECT | -,15714 | ,054433 | ,100 | -,32829 | ,01401 |
| NEEU | -,17619\* | ,054433 | ,038 | -,34734 | -,00504 |
| FCI | -,07143 | ,054433 | ,926 | -,24258 | ,09972 |
| FCT | -,01429 | ,054433 | 1,000 | -,18543 | ,15686 |
| FEU | -,04286 | ,054433 | ,997 | -,21401 | ,12829 |
| Uncoated | ,78095\* | ,054433 | <,001 | ,60980 | ,95210 |
| FCI | NECA | -,25714\* | ,054433 | <,001 | -,42829 | -,08599 |
| NECI | -,22857\* | ,054433 | ,001 | -,39972 | -,05742 |
| NECT | -,08571 | ,054433 | ,817 | -,25686 | ,08543 |
| NEEU | -,10476 | ,054433 | ,598 | -,27591 | ,06639 |
| FCA | ,07143 | ,054433 | ,926 | -,09972 | ,24258 |
| FCT | ,05714 | ,054433 | ,980 | -,11401 | ,22829 |
| FEU | ,02857 | ,054433 | 1,000 | -,14258 | ,19972 |
| Uncoated | ,85238\* | ,054433 | <,001 | ,68123 | 1,02353 |
| FCT | NECA | -,31429\* | ,054433 | <,001 | -,48543 | -,14314 |
| NECI | -,28571\* | ,054433 | <,001 | -,45686 | -,11457 |
| NECT | -,14286 | ,054433 | ,185 | -,31401 | ,02829 |
| NEEU | -,16190 | ,054433 | ,080 | -,33305 | ,00924 |
| FCA | ,01429 | ,054433 | 1,000 | -,15686 | ,18543 |
| FCI | -,05714 | ,054433 | ,980 | -,22829 | ,11401 |
| FEU | -,02857 | ,054433 | 1,000 | -,19972 | ,14258 |
| Uncoated | ,79524\* | ,054433 | <,001 | ,62409 | ,96639 |
| FEU | NECA | -,28571\* | ,054433 | <,001 | -,45686 | -,11457 |
| NECI | -,25714\* | ,054433 | <,001 | -,42829 | -,08599 |
| NECT | -,11429 | ,054433 | ,477 | -,28543 | ,05686 |
| NEEU | -,13333 | ,054433 | ,265 | -,30448 | ,03782 |
| FCA | ,04286 | ,054433 | ,997 | -,12829 | ,21401 |
| FCI | -,02857 | ,054433 | 1,000 | -,19972 | ,14258 |
| FCT | ,02857 | ,054433 | 1,000 | -,14258 | ,19972 |
| Uncoated | ,82381\* | ,054433 | <,001 | ,65266 | ,99496 |
| Uncoated | NECA | -1,10952\* | ,054433 | <,001 | -1,28067 | -,93838 |
| NECI | -1,08095\* | ,054433 | <,001 | -1,25210 | -,90980 |
| NECT | -,93810\* | ,054433 | <,001 | -1,10924 | -,76695 |
| NEEU | -,95714\* | ,054433 | <,001 | -1,12829 | -,78599 |
| FCA | -,78095\* | ,054433 | <,001 | -,95210 | -,60980 |
| FCI | -,85238\* | ,054433 | <,001 | -1,02353 | -,68123 |
| FCT | -,79524\* | ,054433 | <,001 | -,96639 | -,62409 |
| FEU | -,82381\* | ,054433 | <,001 | -,99496 | -,65266 |
| Results\_Odor | NECA | NECI | ,0429 | ,03856 | ,972 | -,0784 | ,1641 |
| NECT | ,0095 | ,03856 | 1,000 | -,1117 | ,1307 |
| NEEU | ,0333 | ,03856 | ,994 | -,0879 | ,1546 |
| FCA | ,1810\* | ,03856 | <,001 | ,0597 | ,3022 |
| FCI | ,2810\* | ,03856 | <,001 | ,1597 | ,4022 |
| FCT | ,3238\* | ,03856 | <,001 | ,2026 | ,4450 |
| FEU | ,2762\* | ,03856 | <,001 | ,1550 | ,3974 |
| Uncoated | 1,0381\* | ,03856 | <,001 | ,9169 | 1,1593 |
| NECI | NECA | -,0429 | ,03856 | ,972 | -,1641 | ,0784 |
| NECT | -,0333 | ,03856 | ,994 | -,1546 | ,0879 |
| NEEU | -,0095 | ,03856 | 1,000 | -,1307 | ,1117 |
| FCA | ,1381\* | ,03856 | ,013 | ,0169 | ,2593 |
| FCI | ,2381\* | ,03856 | <,001 | ,1169 | ,3593 |
| FCT | ,2810\* | ,03856 | <,001 | ,1597 | ,4022 |
| FEU | ,2333\* | ,03856 | <,001 | ,1121 | ,3546 |
| Uncoated | ,9952\* | ,03856 | <,001 | ,8740 | 1,1165 |
| NECT | NECA | -,0095 | ,03856 | 1,000 | -,1307 | ,1117 |
| NECI | ,0333 | ,03856 | ,994 | -,0879 | ,1546 |
| NEEU | ,0238 | ,03856 | ,999 | -,0974 | ,1450 |
| FCA | ,1714\* | ,03856 | <,001 | ,0502 | ,2927 |
| FCI | ,2714\* | ,03856 | <,001 | ,1502 | ,3927 |
| FCT | ,3143\* | ,03856 | <,001 | ,1931 | ,4355 |
| FEU | ,2667\* | ,03856 | <,001 | ,1454 | ,3879 |
| Uncoated | 1,0286\* | ,03856 | <,001 | ,9073 | 1,1498 |
| NEEU | NECA | -,0333 | ,03856 | ,994 | -,1546 | ,0879 |
| NECI | ,0095 | ,03856 | 1,000 | -,1117 | ,1307 |
| NECT | -,0238 | ,03856 | ,999 | -,1450 | ,0974 |
| FCA | ,1476\* | ,03856 | ,006 | ,0264 | ,2688 |
| FCI | ,2476\* | ,03856 | <,001 | ,1264 | ,3688 |
| FCT | ,2905\* | ,03856 | <,001 | ,1693 | ,4117 |
| FEU | ,2429\* | ,03856 | <,001 | ,1216 | ,3641 |
| Uncoated | 1,0048\* | ,03856 | <,001 | ,8835 | 1,1260 |
| FCA | NECA | -,1810\* | ,03856 | <,001 | -,3022 | -,0597 |
| NECI | -,1381\* | ,03856 | ,013 | -,2593 | -,0169 |
| NECT | -,1714\* | ,03856 | <,001 | -,2927 | -,0502 |
| NEEU | -,1476\* | ,03856 | ,006 | -,2688 | -,0264 |
| FCI | ,1000 | ,03856 | ,197 | -,0212 | ,2212 |
| FCT | ,1429\* | ,03856 | ,009 | ,0216 | ,2641 |
| FEU | ,0952 | ,03856 | ,254 | -,0260 | ,2165 |
| Uncoated | ,8571\* | ,03856 | <,001 | ,7359 | ,9784 |
| FCI | NECA | -,2810\* | ,03856 | <,001 | -,4022 | -,1597 |
| NECI | -,2381\* | ,03856 | <,001 | -,3593 | -,1169 |
| NECT | -,2714\* | ,03856 | <,001 | -,3927 | -,1502 |
| NEEU | -,2476\* | ,03856 | <,001 | -,3688 | -,1264 |
| FCA | -,1000 | ,03856 | ,197 | -,2212 | ,0212 |
| FCT | ,0429 | ,03856 | ,972 | -,0784 | ,1641 |
| FEU | -,0048 | ,03856 | 1,000 | -,1260 | ,1165 |
| Uncoated | ,7571\* | ,03856 | <,001 | ,6359 | ,8784 |
| FCT | NECA | -,3238\* | ,03856 | <,001 | -,4450 | -,2026 |
| NECI | -,2810\* | ,03856 | <,001 | -,4022 | -,1597 |
| NECT | -,3143\* | ,03856 | <,001 | -,4355 | -,1931 |
| NEEU | -,2905\* | ,03856 | <,001 | -,4117 | -,1693 |
| FCA | -,1429\* | ,03856 | ,009 | -,2641 | -,0216 |
| FCI | -,0429 | ,03856 | ,972 | -,1641 | ,0784 |
| FEU | -,0476 | ,03856 | ,947 | -,1688 | ,0736 |
| Uncoated | ,7143\* | ,03856 | <,001 | ,5931 | ,8355 |
| FEU | NECA | -,2762\* | ,03856 | <,001 | -,3974 | -,1550 |
| NECI | -,2333\* | ,03856 | <,001 | -,3546 | -,1121 |
| NECT | -,2667\* | ,03856 | <,001 | -,3879 | -,1454 |
| NEEU | -,2429\* | ,03856 | <,001 | -,3641 | -,1216 |
| FCA | -,0952 | ,03856 | ,254 | -,2165 | ,0260 |
| FCI | ,0048 | ,03856 | 1,000 | -,1165 | ,1260 |
| FCT | ,0476 | ,03856 | ,947 | -,0736 | ,1688 |
| Uncoated | ,7619\* | ,03856 | <,001 | ,6407 | ,8831 |
| Uncoated | NECA | -1,0381\* | ,03856 | <,001 | -1,1593 | -,9169 |
| NECI | -,9952\* | ,03856 | <,001 | -1,1165 | -,8740 |
| NECT | -1,0286\* | ,03856 | <,001 | -1,1498 | -,9073 |
| NEEU | -1,0048\* | ,03856 | <,001 | -1,1260 | -,8835 |
| FCA | -,8571\* | ,03856 | <,001 | -,9784 | -,7359 |
| FCI | -,7571\* | ,03856 | <,001 | -,8784 | -,6359 |
| FCT | -,7143\* | ,03856 | <,001 | -,8355 | -,5931 |
| FEU | -,7619\* | ,03856 | <,001 | -,8831 | -,6407 |
| Results\_Colour | NECA | NECI | -,1381\* | ,03776 | ,010 | -,2568 | -,0194 |
| NECT | -,0905 | ,03776 | ,293 | -,2092 | ,0283 |
| NEEU | -,0714 | ,03776 | ,621 | -,1902 | ,0473 |
| FCA | ,2238\* | ,03776 | <,001 | ,1051 | ,3425 |
| FCI | ,1667\* | ,03776 | <,001 | ,0479 | ,2854 |
| FCT | ,2524\* | ,03776 | <,001 | ,1336 | ,3711 |
| FEU | ,1857\* | ,03776 | <,001 | ,0670 | ,3044 |
| Uncoated | 1,4286\* | ,03776 | <,001 | 1,3098 | 1,5473 |
| NECI | NECA | ,1381\* | ,03776 | ,010 | ,0194 | ,2568 |
| NECT | ,0476 | ,03776 | ,941 | -,0711 | ,1664 |
| NEEU | ,0667 | ,03776 | ,705 | -,0521 | ,1854 |
| FCA | ,3619\* | ,03776 | <,001 | ,2432 | ,4806 |
| FCI | ,3048\* | ,03776 | <,001 | ,1860 | ,4235 |
| FCT | ,3905\* | ,03776 | <,001 | ,2717 | ,5092 |
| FEU | ,3238\* | ,03776 | <,001 | ,2051 | ,4425 |
| Uncoated | 1,5667\* | ,03776 | <,001 | 1,4479 | 1,6854 |
| NECT | NECA | ,0905 | ,03776 | ,293 | -,0283 | ,2092 |
| NECI | -,0476 | ,03776 | ,941 | -,1664 | ,0711 |
| NEEU | ,0190 | ,03776 | 1,000 | -,0997 | ,1378 |
| FCA | ,3143\* | ,03776 | <,001 | ,1956 | ,4330 |
| FCI | ,2571\* | ,03776 | <,001 | ,1384 | ,3759 |
| FCT | ,3429\* | ,03776 | <,001 | ,2241 | ,4616 |
| FEU | ,2762\* | ,03776 | <,001 | ,1575 | ,3949 |
| Uncoated | 1,5190\* | ,03776 | <,001 | 1,4003 | 1,6378 |
| NEEU | NECA | ,0714 | ,03776 | ,621 | -,0473 | ,1902 |
| NECI | -,0667 | ,03776 | ,705 | -,1854 | ,0521 |
| NECT | -,0190 | ,03776 | 1,000 | -,1378 | ,0997 |
| FCA | ,2952\* | ,03776 | <,001 | ,1765 | ,4140 |
| FCI | ,2381\* | ,03776 | <,001 | ,1194 | ,3568 |
| FCT | ,3238\* | ,03776 | <,001 | ,2051 | ,4425 |
| FEU | ,2571\* | ,03776 | <,001 | ,1384 | ,3759 |
| Uncoated | 1,5000\* | ,03776 | <,001 | 1,3813 | 1,6187 |
| FCA | NECA | -,2238\* | ,03776 | <,001 | -,3425 | -,1051 |
| NECI | -,3619\* | ,03776 | <,001 | -,4806 | -,2432 |
| NECT | -,3143\* | ,03776 | <,001 | -,4330 | -,1956 |
| NEEU | -,2952\* | ,03776 | <,001 | -,4140 | -,1765 |
| FCI | -,0571 | ,03776 | ,848 | -,1759 | ,0616 |
| FCT | ,0286 | ,03776 | ,998 | -,0902 | ,1473 |
| FEU | -,0381 | ,03776 | ,985 | -,1568 | ,0806 |
| Uncoated | 1,2048\* | ,03776 | <,001 | 1,0860 | 1,3235 |
| FCI | NECA | -,1667\* | ,03776 | <,001 | -,2854 | -,0479 |
| NECI | -,3048\* | ,03776 | <,001 | -,4235 | -,1860 |
| NECT | -,2571\* | ,03776 | <,001 | -,3759 | -,1384 |
| NEEU | -,2381\* | ,03776 | <,001 | -,3568 | -,1194 |
| FCA | ,0571 | ,03776 | ,848 | -,0616 | ,1759 |
| FCT | ,0857 | ,03776 | ,367 | -,0330 | ,2044 |
| FEU | ,0190 | ,03776 | 1,000 | -,0997 | ,1378 |
| Uncoated | 1,2619\* | ,03776 | <,001 | 1,1432 | 1,3806 |
| FCT | NECA | -,2524\* | ,03776 | <,001 | -,3711 | -,1336 |
| NECI | -,3905\* | ,03776 | <,001 | -,5092 | -,2717 |
| NECT | -,3429\* | ,03776 | <,001 | -,4616 | -,2241 |
| NEEU | -,3238\* | ,03776 | <,001 | -,4425 | -,2051 |
| FCA | -,0286 | ,03776 | ,998 | -,1473 | ,0902 |
| FCI | -,0857 | ,03776 | ,367 | -,2044 | ,0330 |
| FEU | -,0667 | ,03776 | ,705 | -,1854 | ,0521 |
| Uncoated | 1,1762\* | ,03776 | <,001 | 1,0575 | 1,2949 |
| FEU | NECA | -,1857\* | ,03776 | <,001 | -,3044 | -,0670 |
| NECI | -,3238\* | ,03776 | <,001 | -,4425 | -,2051 |
| NECT | -,2762\* | ,03776 | <,001 | -,3949 | -,1575 |
| NEEU | -,2571\* | ,03776 | <,001 | -,3759 | -,1384 |
| FCA | ,0381 | ,03776 | ,985 | -,0806 | ,1568 |
| FCI | -,0190 | ,03776 | 1,000 | -,1378 | ,0997 |
| FCT | ,0667 | ,03776 | ,705 | -,0521 | ,1854 |
| Uncoated | 1,2429\* | ,03776 | <,001 | 1,1241 | 1,3616 |
| Uncoated | NECA | -1,4286\* | ,03776 | <,001 | -1,5473 | -1,3098 |
| NECI | -1,5667\* | ,03776 | <,001 | -1,6854 | -1,4479 |
| NECT | -1,5190\* | ,03776 | <,001 | -1,6378 | -1,4003 |
| NEEU | -1,5000\* | ,03776 | <,001 | -1,6187 | -1,3813 |
| FCA | -1,2048\* | ,03776 | <,001 | -1,3235 | -1,0860 |
| FCI | -1,2619\* | ,03776 | <,001 | -1,3806 | -1,1432 |
| FCT | -1,1762\* | ,03776 | <,001 | -1,2949 | -1,0575 |
| FEU | -1,2429\* | ,03776 | <,001 | -1,3616 | -1,1241 |
| Results\_Texture | NECA | NECI | -,1286\* | ,03017 | ,001 | -,2234 | -,0337 |
| NECT | -,0762 | ,03017 | ,228 | -,1711 | ,0187 |
| NEEU | -,0810 | ,03017 | ,162 | -,1758 | ,0139 |
| FCA | ,2381\* | ,03017 | <,001 | ,1432 | ,3330 |
| FCI | ,1905\* | ,03017 | <,001 | ,0956 | ,2853 |
| FCT | ,2714\* | ,03017 | <,001 | ,1766 | ,3663 |
| FEU | ,2190\* | ,03017 | <,001 | ,1242 | ,3139 |
| Uncoated | 1,6429\* | ,03017 | <,001 | 1,5480 | 1,7377 |
| NECI | NECA | ,1286\* | ,03017 | ,001 | ,0337 | ,2234 |
| NECT | ,0524 | ,03017 | ,723 | -,0425 | ,1472 |
| NEEU | ,0476 | ,03017 | ,815 | -,0472 | ,1425 |
| FCA | ,3667\* | ,03017 | <,001 | ,2718 | ,4615 |
| FCI | ,3190\* | ,03017 | <,001 | ,2242 | ,4139 |
| FCT | ,4000\* | ,03017 | <,001 | ,3051 | ,4949 |
| FEU | ,3476\* | ,03017 | <,001 | ,2528 | ,4425 |
| Uncoated | 1,7714\* | ,03017 | <,001 | 1,6766 | 1,8663 |
| NECT | NECA | ,0762 | ,03017 | ,228 | -,0187 | ,1711 |
| NECI | -,0524 | ,03017 | ,723 | -,1472 | ,0425 |
| NEEU | -,0048 | ,03017 | 1,000 | -,0996 | ,0901 |
| FCA | ,3143\* | ,03017 | <,001 | ,2194 | ,4092 |
| FCI | ,2667\* | ,03017 | <,001 | ,1718 | ,3615 |
| FCT | ,3476\* | ,03017 | <,001 | ,2528 | ,4425 |
| FEU | ,2952\* | ,03017 | <,001 | ,2004 | ,3901 |
| Uncoated | 1,7190\* | ,03017 | <,001 | 1,6242 | 1,8139 |
| NEEU | NECA | ,0810 | ,03017 | ,162 | -,0139 | ,1758 |
| NECI | -,0476 | ,03017 | ,815 | -,1425 | ,0472 |
| NECT | ,0048 | ,03017 | 1,000 | -,0901 | ,0996 |
| FCA | ,3190\* | ,03017 | <,001 | ,2242 | ,4139 |
| FCI | ,2714\* | ,03017 | <,001 | ,1766 | ,3663 |
| FCT | ,3524\* | ,03017 | <,001 | ,2575 | ,4472 |
| FEU | ,3000\* | ,03017 | <,001 | ,2051 | ,3949 |
| Uncoated | 1,7238\* | ,03017 | <,001 | 1,6289 | 1,8187 |
| FCA | NECA | -,2381\* | ,03017 | <,001 | -,3330 | -,1432 |
| NECI | -,3667\* | ,03017 | <,001 | -,4615 | -,2718 |
| NECT | -,3143\* | ,03017 | <,001 | -,4092 | -,2194 |
| NEEU | -,3190\* | ,03017 | <,001 | -,4139 | -,2242 |
| FCI | -,0476 | ,03017 | ,815 | -,1425 | ,0472 |
| FCT | ,0333 | ,03017 | ,973 | -,0615 | ,1282 |
| FEU | -,0190 | ,03017 | ,999 | -,1139 | ,0758 |
| Uncoated | 1,4048\* | ,03017 | <,001 | 1,3099 | 1,4996 |
| FCI | NECA | -,1905\* | ,03017 | <,001 | -,2853 | -,0956 |
| NECI | -,3190\* | ,03017 | <,001 | -,4139 | -,2242 |
| NECT | -,2667\* | ,03017 | <,001 | -,3615 | -,1718 |
| NEEU | -,2714\* | ,03017 | <,001 | -,3663 | -,1766 |
| FCA | ,0476 | ,03017 | ,815 | -,0472 | ,1425 |
| FCT | ,0810 | ,03017 | ,162 | -,0139 | ,1758 |
| FEU | ,0286 | ,03017 | ,990 | -,0663 | ,1234 |
| Uncoated | 1,4524\* | ,03017 | <,001 | 1,3575 | 1,5472 |
| FCT | NECA | -,2714\* | ,03017 | <,001 | -,3663 | -,1766 |
| NECI | -,4000\* | ,03017 | <,001 | -,4949 | -,3051 |
| NECT | -,3476\* | ,03017 | <,001 | -,4425 | -,2528 |
| NEEU | -,3524\* | ,03017 | <,001 | -,4472 | -,2575 |
| FCA | -,0333 | ,03017 | ,973 | -,1282 | ,0615 |
| FCI | -,0810 | ,03017 | ,162 | -,1758 | ,0139 |
| FEU | -,0524 | ,03017 | ,723 | -,1472 | ,0425 |
| Uncoated | 1,3714\* | ,03017 | <,001 | 1,2766 | 1,4663 |
| FEU | NECA | -,2190\* | ,03017 | <,001 | -,3139 | -,1242 |
| NECI | -,3476\* | ,03017 | <,001 | -,4425 | -,2528 |
| NECT | -,2952\* | ,03017 | <,001 | -,3901 | -,2004 |
| NEEU | -,3000\* | ,03017 | <,001 | -,3949 | -,2051 |
| FCA | ,0190 | ,03017 | ,999 | -,0758 | ,1139 |
| FCI | -,0286 | ,03017 | ,990 | -,1234 | ,0663 |
| FCT | ,0524 | ,03017 | ,723 | -,0425 | ,1472 |
| Uncoated | 1,4238\* | ,03017 | <,001 | 1,3289 | 1,5187 |
| Uncoated | NECA | -1,6429\* | ,03017 | <,001 | -1,7377 | -1,5480 |
| NECI | -1,7714\* | ,03017 | <,001 | -1,8663 | -1,6766 |
| NECT | -1,7190\* | ,03017 | <,001 | -1,8139 | -1,6242 |
| NEEU | -1,7238\* | ,03017 | <,001 | -1,8187 | -1,6289 |
| FCA | -1,4048\* | ,03017 | <,001 | -1,4996 | -1,3099 |
| FCI | -1,4524\* | ,03017 | <,001 | -1,5472 | -1,3575 |
| FCT | -1,3714\* | ,03017 | <,001 | -1,4663 | -1,2766 |
| FEU | -1,4238\* | ,03017 | <,001 | -1,5187 | -1,3289 |
| Based on observed means.  The error term is Mean Square(Error) = ,010. | | | | | | | |
| \*. The mean difference is significant at the ,05 level. | | | | | | | |