Table S1. Effect of treatment (pre- and post- work), timepoints (0, 3, and 6 hours), and their interaction on AST concentrations in working mules.

|  |  |  |  |
| --- | --- | --- | --- |
| Effects | Coefficient ± SE | 95% CI | P- values |
| **Treatment** |  |  |  |
| Pre-work season | Referent |  |  |
| Post-work season | 54.16 ± 12.90 | 28.88; 79.45291 | <0.001 |
| Timepoint |  |  |  |
| 0 hour | Referent |  |  |
| 3 hours | 17 ± 12.90 | -8.286243; 42.28624 | 0.188 |
| 6 hours | 13.33 ± 12.90  | --11.95291; 38.61958 | 0.301 |
| Treatment × Timepoint |  |  |  |
| Post-work season at 0 h | Referent |  |  |
| Post-work season at 3 h | -19 ± 18.24531 | -54.76015; 16.76015 | 0.298 |
| Post-work season at 6 h | -10.83 ± 18.245 | -46.59348; 24.92681 | 0.553 |

Table S2. Effect of treatment (pre- and post- work), timepoints (0, 3, and 6 hours), and their interaction on BUN concentrations in working mules.

|  |  |  |  |
| --- | --- | --- | --- |
| Effects | Coefficient ± SE | 95% CI | P- values |
| **Treatment** |  |  |  |
| Pre-work season | Referent |  |  |
| Post-work season | 6.75 ± 0.752  | 5.2753; 8.2247 | <0.001 |
| Timepoint |  |  |  |
| 0 hour | Referent |  |  |
| 3 hours | 0.066 ± 0.752 | -1.408033 ; 1.541367 | 0.929 |
| 6 hours | 1.016 ± 0.752 | -.4580333; 2.491367 | 0.177 |
| Treatment × Timepoint |  |  |  |
| Post-work season at 0 h | Referent |  |  |
| Post-work season at 3 h | 0.033 ± 1.064 | -2.052207; 2.118874 | 0.975 |
| Post-work season at 6 h | -0.383 ± 1.064  | -2.468874; 1.702208 | 0.719 |

Table S3. Effect of treatment (pre- and post- work), timepoints (0, 3, and 6 hours), and their interaction on calcium concentrations in working mules.

|  |  |  |  |
| --- | --- | --- | --- |
| Effects | Coefficient ± SE | 95% CI | P- values |
| **Treatment** |  |  |  |
| Pre-work season | Referent |  |  |
| Post-work season | 0.799 ± 0.256  | 0.2967; 1.303288 | 0.002 |
| Timepoint |  |  |  |
| 0 hour | Referent |  |  |
| 3 hours | 0.349 ± 0.25 | -.1532884; .8532882 | 0.173 |
| 6 hours | 0.183 ± 0.2567845 | -0.319955; .6866215 | 0.475 |
| Treatment × Timepoint |  |  |  |
| Post-work season at 0 h | Referent |  |  |
| Post-work season at 3 h | -0.36 ± 0.3631 | -1.078424; 0.3450906 | 0.313 |
| Post-work season at 6 h | -0.0233 ± 0.363 | -0.945; .478424 | 0.521 |

Table S4. Effect of treatment (pre- and post- work), timepoints (0, 3, and 6 hours), and their interaction on tCO2 concentrations in working mules.

|  |  |  |  |
| --- | --- | --- | --- |
| Effects | Coefficient ± SE | 95% CI | P- values |
| **Treatment** |  |  |  |
| Pre-work season | Referent |  |  |
| Post-work season | 2.15 ± 0.7849 | 0.6115704; 3.688429 | 0.006 |
| Timepoint |  |  |  |
| 0 hour | Referent |  |  |
| 3 hours | 0.0166 ± 0.7849273 | -1.521763; 1.555096 | 0.983 |
| 6 hours | -0.4833 ± 0.78492 | -2.021763; 1.055096 | 0.538 |
| Treatment × Timepoint |  |  |  |
| Post-work season at 0 h | Referent |  |  |
| Post-work season at 3 h | -0.033 ± 1.110 | -2.209001; 2.142334 | 0.976 |
| Post-work season at 6 h | 0.316 ± 1.110 | -1.859; 2.492335 | 0.775 |

Table S5. Effect of treatment (pre- and post- work), timepoints (0, 3, and 6 hours), and their interaction on urea concentrations in working mules.

|  |  |  |  |
| --- | --- | --- | --- |
| Effects | Coefficient ± SE | 95% CI | P- values |
| **Treatment** |  |  |  |
| Pre-work season | Referent |  |  |
| Post-work season | 14.45 ± 1.610 | 11.29317; 17.60683 | <0.001 |
| Timepoint |  |  |  |
| 0 hour | Referent |  |  |
| 3 hours | 0.133 ± 1.61 | -3.023494; 3.290161 | 0.934 |
| 6 hours | -2.183334 ± 1.610 | -0.9734941; 5.340162 | 0.175 |
| Treatment × Timepoint |  |  |  |
| Post-work season at 0 h | Referent |  |  |
| Post-work season at 3 h | 0.100 ± 2.277 | -4.364429; 4.564429 | 0.965  |
| Post-work season at 6 h | -0.83 ± 2.277 | -5.297; 3.631 | 0.714 |

Table S6. Effect of treatment (pre- and post- work), timepoints (0, 3, and 6 hours), and their interaction on blood glucose levels in working mules.

|  |  |  |  |
| --- | --- | --- | --- |
| Effects | Coefficient ± SE | 95% CI | P- values |
| **Treatment** |  |  |  |
| Pre-work season | Referent |  |  |
| Post-work season | -35.23 ± 4.159897 | -43.38658; -27.08009 | <0.001 |
| Timepoint |  |  |  |
| 0 hour | Referent |  |  |
| 3 hours | -4.3333 ± 4.159 | -12.48658; 3.819915 | 0.298 |
| 6 hours | -11.66667 ± 4.159897 | -19.81991; -3.513419 | 0.005 |
| Treatment × Timepoint |  |  |  |
| Post-work season at 0 h | Referent |  |  |
| Post-work season at 3 h | 3.1833 ± 5.882 | -8.3471; 14.71377 | 0.588 |
| Post-work season at 6 h | - 10.5 ± 5.882 | -1.030 ; 22.03043 | 0.074 |