**Table 4**. Blood concentrations of hormones, antioxidant enzymes, and metabolites in lactating Jersey dairy cows fed incremental amounts of kelp meal or monensin (MON)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Kelp meal | | | |  |  |  | Contrasts (*P*-values)1 | | | |
| Item2 | 0 g | 57 g | 113 g | 170 g |  | MON | SEM | Linear | Quadratic | Kelp vs. MON | 170 g Kelp vs. MON |
| Cortisol, ng/mL | 9.31 | 6.94 | 6.59 | 4.42 |  | 7.25 | 1.24 | 0.01 | 0.94 | 0.37 | 0.11 |
| Aldosterone, ng/mL | 0.14 | 0.18 | 0.25 | 0.22 |  | 0.15 | 0.05 | 0.21 | 0.55 | 0.30 | 0.37 |
| Insulin, µIU/mL | 12.7 | 11.0 | 13.8 | 11.0 |  | 10.8 | 2.15 | 0.75 | 0.71 | 0.52 | 0.91 |
| Glucose, mg/dL | 52.4 | 53.0 | 54.6 | 53.8 |  | 57.6 | 1.78 | 0.24 | 0.52 | 0.009 | 0.02 |
| BSA, g/dL | 4.00 | 3.92 | 3.98 | 3.94 |  | 3.98 | 0.09 | 0.59 | 0.69 | 0.56 | 0.57 |
| AST, U/L | 123 | 129 | 123 | 138 |  | 141 | 14.2 | 0.19 | 0.45 | 0.15 | 0.74 |
| BHBA, mg/dL | 8.00 | 9.40 | 8.80 | 9.00 |  | 7.40 | 1.01 | 0.59 | 0.55 | 0.16 | 0.26 |
| NEFA, µEq/L | 0.08 | 0.09 | 0.09 | 0.09 |  | 0.10 | 0.001 | 0.16 | 0.88 | 0.34 | 0.69 |
| GPx, nmol/min/mL | 51.3 | 49.4 | 45.5 | 54.9 |  | 65.4 | 8.90 | 0.85 | 0.55 | 0.15 | 0.39 |
| SOD, U/mL | 0.40 | 0.42 | 0.36 | 0.39 |  | 0.48 | 0.08 | 0.64 | 0.92 | 0.12 | 0.19 |
| CAT, nmol/min/mL | 8.90 | 6.20 | 10.9 | 6.02 |  | 5.96 | 2.27 | 0.68 | 0.62 | 0.50 | 0.98 |
| Urea N, mg/dL | 13.4 | 11.8 | 12.6 | 11.2 |  | 14.2 | 0.95 | 0.17 | 0.91 | 0.04 | 0.03 |

1Linear and quadratic effects of incremental amounts of kelp meal (0, 57, 113, and 170 g/d); Kelp vs. MON = mean of the 3 kelp meal treatments vs. the mean of the MON treatment; 170 g Kelp vs. MON = mean of the treatment consisting of 170 g of kelp meal vs. MON treatment.

2BSA = bovine serum albumin; AST = aspartate aminotransferase; BHBA = β-hydroxybutyric acid; NEFA = non-esterified fatty acids; GPx = glutathione peroxidase; SOD = superoxide dismutase; CAT = catalase.