**Table 3**. Production performance, milk composition, urinary excretion of nitrogenous compounds, and apparent total-tract digestibility of nutrients 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 |
| DM intake, kg/d | 20.1 | 19.8 | 19.7 | 19.8 |  | 19.2 | 0.60 | 0.48 | 0.61 | 0.10 | 0.17 |
| Milk yield, kg/d | 20.8 | 20.1 | 19.9 | 20.8 |  | 20.2 | 0.58 | 0.76 | 0.005 | 0.65 | 0.10 |
| Milk fat, % | 4.66 | 4.66 | 4.80 | 4.61 |  | 5.01 | 0.06 | 0.85 | 0.001 | <0.001 | <0.001 |
| Milk fat, kg/d | 0.96 | 0.94 | 0.95 | 0.95 |  | 1.00 | 0.02 | 0.89 | 0.04 | 0.002 | 0.02 |
| Milk protein, % | 3.59 | 3.62 | 3.62 | 3.55 |  | 3.64 | 0.11 | 0.07 | 0.004 | 0.01 | <0.001 |
| Milk protein, kg/d | 0.74 | 0.73 | 0.71 | 0.73 |  | 0.72 | 0.02 | 0.33 | 0.05 | 0.50 | 0.22 |
| Milk lactose, % | 4.71 | 4.68 | 4.70 | 4.69 |  | 4.71 | 0.05 | 0.72 | 0.35 | 0.19 | 0.35 |
| Milk lactose, kg/d | 0.98 | 0.94 | 0.94 | 0.97 |  | 0.95 | 0.02 | 0.69 | 0.01 | 0.93 | 0.23 |
| MUN, mg/dL | 10.3 | 9.70 | 10.4 | 10.5 |  | 11.1 | 0.66 | 0.06 | 0.04 | <0.001 | 0.01 |
| Urinary excretion |  |  |  |  |  |  |  |  |  |  |  |
| Total N, g/d | 197 | 213 | 214 | 201 |  | 212 | 16.6 | 0.85 | 0.36 | 0.88 | 0.62 |
| Allantoin, mmol/d | 108 | 97.3 | 94.3 | 104 |  | 104 | 7.54 | 0.63 | 0.20 | 0.50 | 0.94 |
| Uric acid, mmol/d | 25.9 | 24.4 | 26.3 | 22.0 |  | 24.5 | 3.25 | 0.47 | 0.64 | 0.94 | 0.57 |
| Total PD, mmol/d | 134 | 122 | 121 | 126 |  | 129 | 8.67 | 0.51 | 0.34 | 0.54 | 0.79 |
| Digestibility |  |  |  |  |  |  |  |  |  |  |  |
| OM, % | 62.5 | 63.7 | 65.7 | 68.4 |  | 66.4 | 0.90 | <0.001 | 0.39 | 0.61 | 0.12 |
| NDF, % | 57.2 | 58.5 | 61.9 | 61.4 |  | 58.9 | 4.56 | 0.15 | 0.70 | 0.55 | 0.47 |
| ADF, % | 59.0 | 60.6 | 64.7 | 61.7 |  | 58.0 | 4.69 | 0.19 | 0.27 | 0.08 | 0.21 |
| CP, % | 59.8 | 63.5 | 65.9 | 65.5 |  | 63.2 | 3.96 | 0.06 | 0.35 | 0.48 | 0.46 |

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.

2DM = dry matter; PD = purine derivatives = allantoin + uric acid; OM = organic matter; NDF = neutral detergent fiber; ADF = acid detergent fiber; CP = crude protein.