Table 1. Estimated percentage of the DM in the A pool (readily digestible portion) for alfalfa, Shiraz grape pomace (SGP), Cabernet Sauvignon grape pomace (CSGP), Parifanka pomegranate husk (PPH) and Desertnyi pomegranate husk (DPH)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | % Alfalfa  |  |  | Contrast1 |  |
|  | 100 | 75 | 50 | 25 | 0 | SEM | Linear | Quadratic | Cubic |
| SGP | 22.1 | 25.0 | 24.5 | 15.2 | 16.1 | 3.9 | 0.11 | 0.42 | 0.27 |
| CSGP | 22.1 | 19.1 | 16.5 | 12.5 | 16.3 | 2.6 | 0.06 | 0.30 | 0.36 |
| PPH | 22.1 | 27.3 | 36.6 | 40.1 | 43.2 | 2.2 | <0.01 | 0.26 | 0.53 |
| DPH | 22.1 | 27.7 | 26.9 | 45.7 | 47.5 | 5.6 | 0.02 | 0.62 | 0.56 |

1 Contrast significant at *P* < 0.05

Table 2. Estimated percentage of the DM in the B pool (potentially digestible portion) for alfalfa, Shiraz grape pomace (SGP), Cabernet Sauvignon grape pomace (CSGP), Parifanka pomegranate husk (PPH) and Desertnyi pomegranate husk (DPH)

|  |  |  |  |
| --- | --- | --- | --- |
|  | % Alfalfa |  | Contrast1 |
|  | 100 | 75 | 50 | 25 | 0 | SEM | Linear | Quadratic | Cubic |
| SGP | 37.3 | 23.0 | 18.4 | 27.5 | 9.4 | 4.9 | 0.01 | 0.75 | 0.04 |
| CSGP | 37.3 | 26.4 | 26.7 | 24.2 | 10.6 | 3.9 | <0.01 | 0.62 | 0.10 |
| PPH | 37.3 | 27.7 | 31.3 | 31.4 | 17.6 | 6.1 | 0.12 | 0.62 | 0.20 |
| DPH | 37.3 | 21.6 | 21.4 | 20.4 | 13.7 | 4.6 | 0.03 | 0.39 | 0.19 |

1 Contrast significant at *P* < 0.05

Table 3. Estimated percentage of the DM in the C pool (potentially indigestible portion) for alfalfa, Shiraz grape pomace (SGP), Cabernet Sauvignon grape pomace (CSGP), Parifanka pomegranate husk (PPH) and Desertnyi pomegranate husk (DPH)

|  |  |  |  |
| --- | --- | --- | --- |
|  | % Alfalfa |  | Contrast1 |
|  | 100 | 75 | 50 | 25 | 0 | SEM | Linear | Quadratic | Cubic |
| SGP | 40.6 | 51.9 | 57.1 | 57.3 | 74.5 | 5.2 | <0.01 | 0.74 | 0.17 |
| CSGP | 40.6 | 54.5 | 56.8 | 63.3 | 73.1 | 4.1 | <0.01 | 0.82 | 0.25 |
| PPH | 40.6 | 45.1 | 32.1 | 28.5 | 39.3 | 7.2 | 0.45 | 0.45 | 0.21 |
| DPH | 40.6 | 50.7 | 51.7 | 33.9 | 38.8 | 3.6 | 0.17 | 0.10 | 0.03 |

1 Contrast significant at *P* < 0.05

Table 4. Estimation of k (%/h, rate of degradation) for alfalfa, Shiraz grape pomace (SGP), Cabernet Sauvignon grape pomace (CSGP), Parifanka pomegranate husk (PPH) and Desertnyi pomegranate husk (DPH)

|  |  |  |  |
| --- | --- | --- | --- |
|  | % Alfalfa |  | Contrast1 |
|  | 100 | 75 | 50 | 25 | 0 | SEM | Linear | Quadratic | Cubic |
| SGP | 4.3 | 6.3 | 4.2 | 3.6 | 5.0 | 2.0 | 0.84 | 0.97 | 0.34 |
| CSGP | 4.3 | 16.8 | 6.0 | 3.5 | 4.9 | 3.6 | 0.31 | 0.38 | 0.04 |
| PPH | 4.3 | 14.5 | 1.5 | 2.3 | 3.4 | 2.8 | 0.19 | 0.70 | 0.04 |
| DPH | 4.3 | 22.0 | 10.8 | 1.7 | 6.5 | 5.8 | 0.48 | 0.36 | 0.06 |

1 Contrast significant at *P* < 0.05

Table 5. Estimation for the effective digestibility for alfalfa, Shiraz grape pomace (SGP), Cabernet Sauvignon grape pomace (CSGP), Parifanka pomegranate husk (PPH) and Desertnyi pomegranate husk (DPH)

|  |  |  |  |
| --- | --- | --- | --- |
|  | % Alfalfa |  | Contrast1 |
|  | 100 | 75 | 50 | 25 | 0 | SEM | Linear | Quadratic | Cubic |
| SGP | 43.6 | 35.9 | 35.7 | 34.0 | 20.5 | 7.5 | 0.07 | 0.66 | 0.41 |
| CSGP | 43.6 | 25.8 | 28.6 | 27.0 | 21.3 | 5.2 | 0.04 | 0.39 | 0.15 |
| PPH | 43.6 | 35.8 | 60.9 | 64.0 | 53.7 | 8.3 | 0.12 | 0.42 | 0.12 |
| DPH | 43.6 | 32.8 | 33.7 | 60.9 | 53.5 | 6.6 | 0.09 | 0.27 | 0.06 |

1 Contrast significant at *P* < 0.05

Table 6. Effect of grape pomace and pomegranate husk extracts on activity (% active) of L3 *O. ostetagia*

|  |  |
| --- | --- |
| Extract1 | Active (%) |
| (mg/mL) | 0 h | 2 h | 4 h | 24 h  |
| Control, PBS (+)2 | 74.3± 0.02a,b,c | 65.9 ± 0.04a | 64.7 ± 0.03a | 57.7 ± 0.04a |
| Shiraz |  |  |  |  |
|  6.25 | 69.2 ± 0.02a | 54.8 ± 0.04b | 38.2 ± 0.03b | 35.3 ± 0.04b |
|  12.5 | 75.9 ± 0.02b | 56.5 ± 0.04b | 38.5 ± 0.03b | 34.5 ± 0.04b |
| Cabernet Sauvignon |  |  |  |  |
|  6.25 | 76.7 ± 0.02b | 46.7 ± 0.04b,c | 27.5 ± 0.03a | 37.3 ± 0.04b |
|  12.5 | 73.5 ± 0.02a,b | 45.9 ± 0.04b | 25.2 ± 0.03a | 35.4 ± 0.04b |
| Wonderful |  |  |  |  |
|  12.5 | 67.1 ± 0.02a,c | 42.1 ± 0.04c,d | 27.8 ± 0.03c | 29.9 ± 0.04b |
|  25.0 | 68.0 ± 0.02a,c | 32.6 ± 0.04d | 23.0 ± 0.03c | 22.2 ± 0.04c |
|  50.0 | 66.6 ± 0.02a,c | 29.7 ± 0.04e | 16.8 ± 0.03d | 18.0 ± 0.04c |
| Sogidana |  |  |  |  |
|  12.5 | 68.5 ± 0.02a | 40.6 ± 0.04c,e | 27.8 ± 0.03c | 36.8 ± 0.04b |
|  25.0 | 67.4 ± 0.02a,c | 36.0 ± 0.04c,e | 20.9 ± 0.03c,d | 27.2 ± 0.04b |
|  50.0 | 63.2 ± 0.02d | 29.9 ± 0.04e | 17.3 ± 0.03d | 21.6 ± 0.04c |

1Shiraz and Cabernet Sauvignon – Grape pomace extracts, Wonderful and Sogidana – Pomegranate husk extracts

 2PBS(+) – Phosphate Buffered Saline, 0.05 M NaCl, and 5% DMSO to increase solubility of dried extracts

abcde Means within a column with unlike superscripts are different (*P*<0.05)

Table 7. Effects of pomegranate husk extracts on activity of adult *N. brasiliensis*

|  |  |  |
| --- | --- | --- |
| Extract (mg/mL) | Activity1 | SEM |
| Control2 | 61.9a | 4.0 |
| Wonderful |  |  |
|  15 | 14.4b | 4.0 |
|  30 | 13.6b | 4.0 |
| Sogidana |  |  |
|  15 | 5.5b | 4.0 |
|  30 | 11.6b | 4.0 |

1Activity reported as number of active adults counted out of approximately 100

2Control consisted of RPMI-1640 with 1%/mL penicillin/streptomycin at pH=7.2

a,b Means within a column with unlike superscripts are different (*P*<0.05)