

**Table 4.** Herbage production, nutritive values, and predicted milk production from the Wangsgard on-farm trial located in Young Ward, Utah. Treatments consisted of mixed pasture with applications of Chilean nitrate (Nitrate), high sulfur gypsum (Gypsum), elemental sulfur (Sulfur), and mixtures of nitrate and gypsum (Nit+Gyp), and gypsum and sulfur (Gyp+Sulf). Adapted from M. Rose M.S. thesis, 2019, Utah State University.

| Trmt.    | Herbage production     |    | CP     |   | NDF    |    | IVTD   |    | TDN    |     |
|----------|------------------------|----|--------|---|--------|----|--------|----|--------|-----|
|          | lb. acre <sup>-1</sup> |    | -----% |   | -----% |    | -----% |    | -----% |     |
| Nit+Gyp  | 4740                   | a  | 14.2   | a | 56.2   | a  | 77.4   | ab | 62.5   | d   |
| Nitrate  | 4244                   | ab | 14.2   | a | 55.5   | ab | 77.4   | ab | 65.5   | abc |
| Nothing  | 3765                   | b  | 14.7   | a | 52.7   | b  | 79.8   | a  | 67.1   | ab  |
| Gypsum   | 3667                   | bc | 13.1   | a | 57.0   | a  | 75.9   | b  | 63.5   | cd  |
| Gyp+Sulf | 3595                   | bc | 14.8   | a | 53.8   | ab | 78.2   | ab | 65.0   | bcd |
| Sulfur   | 2983                   | c  | 15.1   | a | 52.5   | b  | 78.6   | a  | 67.9   | a   |
| Mean S.E | 265                    |    | n.s    |   | 1.1    |    | 0.9    |    | 1.1    |     |

|          | RFQ   |    | NE <sub>L</sub>       |     | Milk day <sup>-1</sup> † |    | Milk acre <sup>-1</sup> † |    |
|----------|-------|----|-----------------------|-----|--------------------------|----|---------------------------|----|
|          |       |    | Mcal kg <sup>-1</sup> |     | -----lb.-----            |    | -----lb.-----             |    |
| Nit+Gyp  | 141.2 | b  | 0.6                   | d   | 53.1                     | b  | 7353.8                    | a  |
| Nitrate  | 150.4 | ab | 0.7                   | abc | 57.9                     | ab | 6987.2                    | a  |
| Nothing  | 163.9 | a  | 0.7                   | ab  | 64.7                     | a  | 6455.3                    | ab |
| Gypsum   | 140.3 | b  | 0.7                   | cd  | 52.8                     | b  | 5853.7                    | bc |
| Gyp+Sulf | 158.4 | ab | 0.7                   | bcd | 61.9                     | ab | 5642.2                    | bc |
| Sulfur   | 165.6 | a  | 0.7                   | a   | 65.6                     | a  | 5194.0                    | c  |
| Mean S.E | 6.6   |    | 0.01                  |     | 3.3                      |    | 399.1                     |    |

Pasture treatments followed by different letters (a,b,c,d,e) are significantly different ( $p = 0.05$ ).

†Predicted milk values are intended for comparison between treatments rather than for precise numerical estimates