



## Beaverton Fertilizer and Lime Trial 2018

**Table 1.** Forage Yield and Quality With and Without Fertilizer (K+SOP and Bone Meal)

	No Fertilizer $\pm$ SD	With Fertilizer $\pm$ SD	P-Value
Total Dry Weight (lbs./acre)	4606 $\pm$ 1033	4793 $\pm$ 523	0.614
Crude Protein (%)	4.9 $\pm$ 0.4	5.4 $\pm$ 0.6	0.009**
Acid Detergent Fiber (% ADF)	37 $\pm$ 2	37 $\pm$ 1	0.731
Neutral Detergent Fiber (% NDF)	59.9 $\pm$ 2.1	59.5 $\pm$ 1.2	0.656
Relative Feed Value (RFV)	93 $\pm$ 5	94 $\pm$ 2	0.643
Total Digestible Nutrients (TDN)	59 $\pm$ 2	59 $\pm$ 1	0.712
Digestible Protein (%)	0.5 $\pm$ 0.4	1.0 $\pm$ 0.6	0.009**
Digestible Dry Matter (% DDM)	59.9 $\pm$ 1.3	60.0 $\pm$ 0.4	0.759
Dry Matter Intake (DMI)	2.0 $\pm$ 0.1	2.0 $\pm$ 0.1	0.594
Digestible Energy (MCAL/kg)	2.59 $\pm$ 0.08	2.60 $\pm$ 0.02	0.735
Metabolizable Energy (MSCAL/kg)	2.17 $\pm$ 0.08	2.18 $\pm$ 0.02	0.705
Net Energy Lact. (MCAL/kg)	1.32 $\pm$ 0.04	1.33 $\pm$ 0.01	0.536
Net Energy Maint. (MCAL/kg)	1.75 $\pm$ 0.07	1.77 $\pm$ 0.02	0.621
Net Energy Gain (MCAL/kg)	1.07 $\pm$ 0.06	1.08 $\pm$ 0.02	0.707
Phosphorous (%)	0.11 $\pm$ 0.06	0.13 $\pm$ 0.02	0.257
Potassium (%)	1.02 $\pm$ 0.21	1.33 $\pm$ 0.23	0.003**
Calcium (%)	0.48 $\pm$ 0.06	0.47 $\pm$ 0.03	0.860
Magnesium (%)	0.22 $\pm$ 0.01	0.22 $\pm$ 0.01	0.529

Mean plus or minus standard deviation (SD)

\*p-value <0.05, \*\*p-value <0.01, \*\*\*p-value <0.001



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**Table 2.** Forage Yield and Quality With and Without Lime

	No Lime $\pm$ SD	With Lime $\pm$ SD	P-Value
Total Dry Weight (lbs./acre)	4720 $\pm$ 662	4679 $\pm$ 960	0.913
Crude Protein (%)	5.2 $\pm$ 0.7	5.0 $\pm$ 0.5	0.506
Acid Detergent Fiber (% ADF)	38 $\pm$ 1	37 $\pm$ 1	0.170
Neutral Detergent Fiber (% NDF)	60.5 $\pm$ 1.6	58.9 $\pm$ 1.3	0.027*
Relative Feed Value (RFV)	92 $\pm$ 4	95 $\pm$ 3	0.047*
Total Digestible Nutrients (TDN)	59 $\pm$ 1	59 $\pm$ 1	0.185
Digestible Protein (%)	0.8 $\pm$ 0.7	0.6 $\pm$ 0.5	0.506
Digestible Dry Matter (% DDM)	59.7 $\pm$ 1.0	60.2 $\pm$ 0.8	0.211
Dry Matter Intake (DMI)	2.0 $\pm$ 0.1	2.1 $\pm$ 0.1	0.081
Digestible Energy (MCAL/kg)	2.58 $\pm$ 0.06	2.62 $\pm$ 0.05	0.191
Metabolizable Energy (MSCAL/kg)	2.16 $\pm$ 0.06	2.20 $\pm$ 0.05	0.190
Net Energy Lact. (MCAL/kg)	1.32 $\pm$ 0.03	1.34 $\pm$ 0.02	0.197
Net Energy Maint. (MCAL/kg)	1.74 $\pm$ 0.06	1.78 $\pm$ 0.04	0.195
Net Energy Gain (MCAL/kg)	1.06 $\pm$ 0.05	1.09 $\pm$ 0.03	0.178
Phosphorous (%)	0.13 $\pm$ 0.05	0.12 $\pm$ 0.04	0.716
Potassium (%)	1.20 $\pm$ 0.25	1.15 $\pm$ 0.29	0.696
Calcium (%)	0.47 $\pm$ 0.04	0.48 $\pm$ 0.05	0.860
Magnesium (%)	0.22 $\pm$ 0.01	0.22 $\pm$ 0.01	0.529

Mean plus or minus standard deviation (SD)

\*p-value <0.05, \*\*p-value <0.01, \*\*\*p-value <0.001

## Trial Methods

11/11/16 - Applied Lime (calpril) @ 500 lbs./ acre

5/10/17 - Applied organic fertilizer 40 lbs. N, 130 lbs. P, 165 lbs. K per acre as K+SOP (0-0-50) @ 330 lbs./ acre; Bone Meal (4-13-0) @1000 lbs./ acre

7/14/17 - Sampled forage yield and quality

7/15/17 - Hayed

7/3/18 - Sampled forage yield and quality

July 2018 - Hayed

For more information please contact Brook Brouwer at [brook.brouwer@wsu.edu](mailto:brook.brouwer@wsu.edu).

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