whitebarn fall baseline samples 2023

NIRS

forage quality estimated using near infrared spectroscopy (NIRS) Perten DA7250 with 'hay' equation in small white static plastic cup.

machine struggled to confidently predict neutral detergent fiber digestibility so I am not reporting those values nor relative forage quality.

protein, adf (acid detergent fiber) and ndf (neutral detergent fiber) expressed as percent of dry matter.

rfv.sdsu is relative feed value (RFV) and has no units.

Straw bale

Over a dozen cores of straw bales were sampled at white barn during fall sampling. We scanned 8 sub-samples to predict forage quality.

Protein averaged 5.9 %, RFV averaged 63.

protein	adf	ndf	rfv.sdsu
Min. :5.033	Min. :40.73	Min. :78.57	Min. :61.05
1st Qu.:5.763	1st Qu.:41.68	1st Qu.:81.99	1st Qu.:61.49
Median :5.930	Median :42.16	Median :83.55	Median :62.34
Mean :5.978	Mean :42.05	Mean :83.10	Mean :62.91
3rd Qu.:6.315	3rd Qu.:42.48	3rd Qu.:84.88	3rd Qu.:63.42
Max. :6.800	Max. :43.34	Max. :86.45	Max. :66.63

Plot data

We collected fall baseline samples from 3 locations in the field. From each location, 3 samples within the exclosure and 3 samples outside. Therefore we had 3*(3+3) total samples from the field, each sample was scanned 3 times after grinding, resulting in 54 total data points for forage quality.

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    protein           adf             ndf           rfv.sdsu
 Min.   : 4.163   Min.   :25.29   Min.   :56.73   Min.   : 63.57
 1st Qu.: 8.046   1st Qu.:32.34   1st Qu.:66.15   1st Qu.: 80.24
 Median : 9.779   Median :33.98   Median :69.25   Median : 83.73
 Mean   : 9.708   Mean   :33.54   Mean   :69.44   Mean   : 84.97
 3rd Qu.:11.129   3rd Qu.:35.40   3rd Qu.:71.63   3rd Qu.: 89.14
 Max.   :14.333   Max.   :45.26   Max.   :83.14   Max.   :112.00
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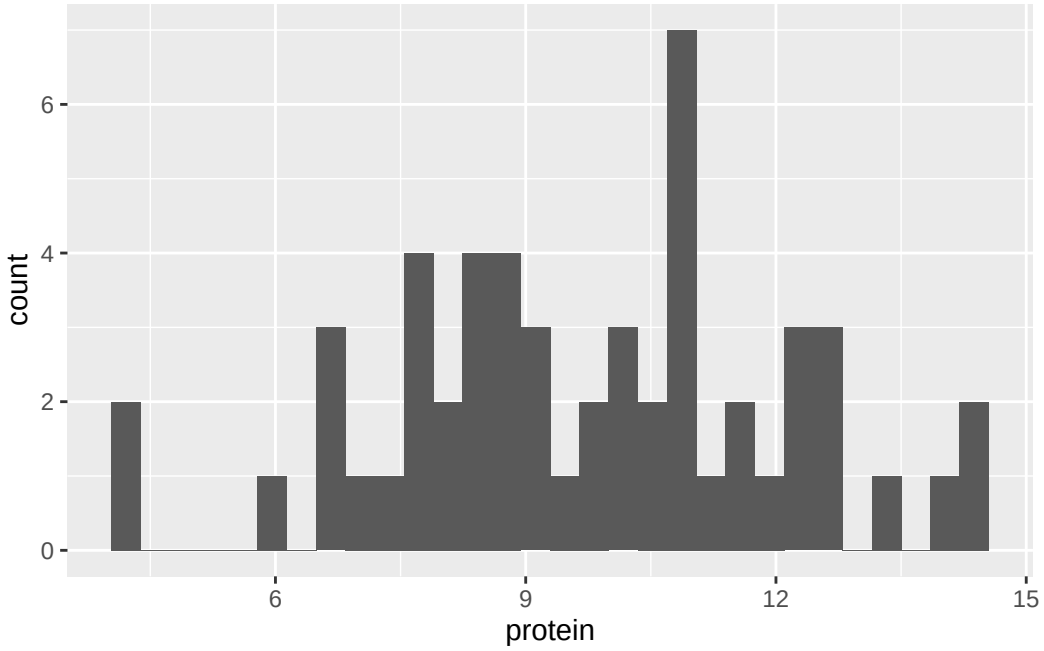
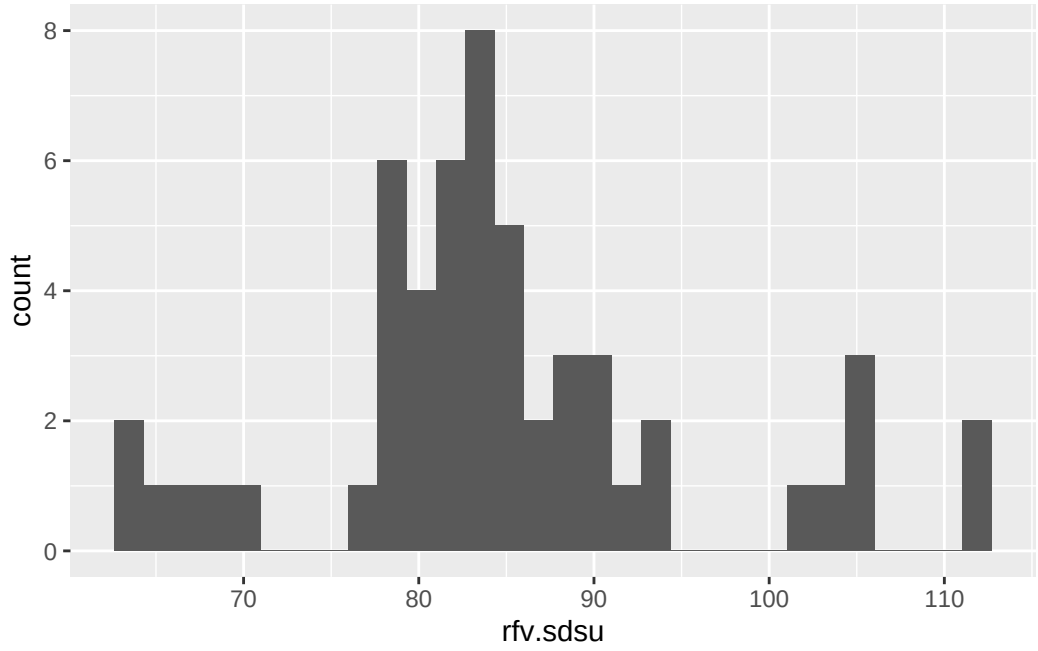
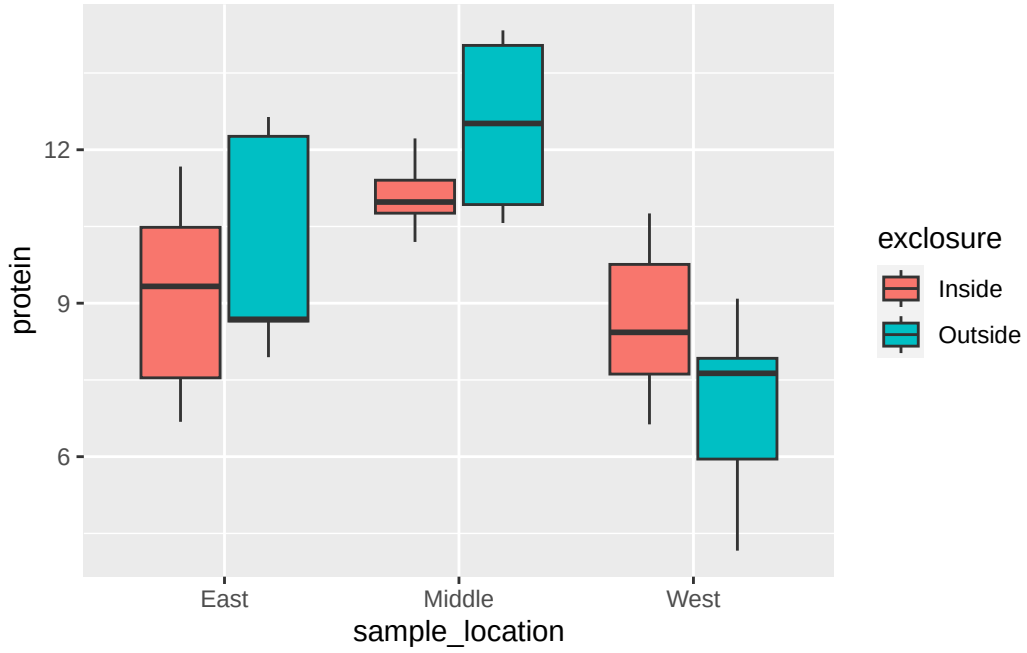
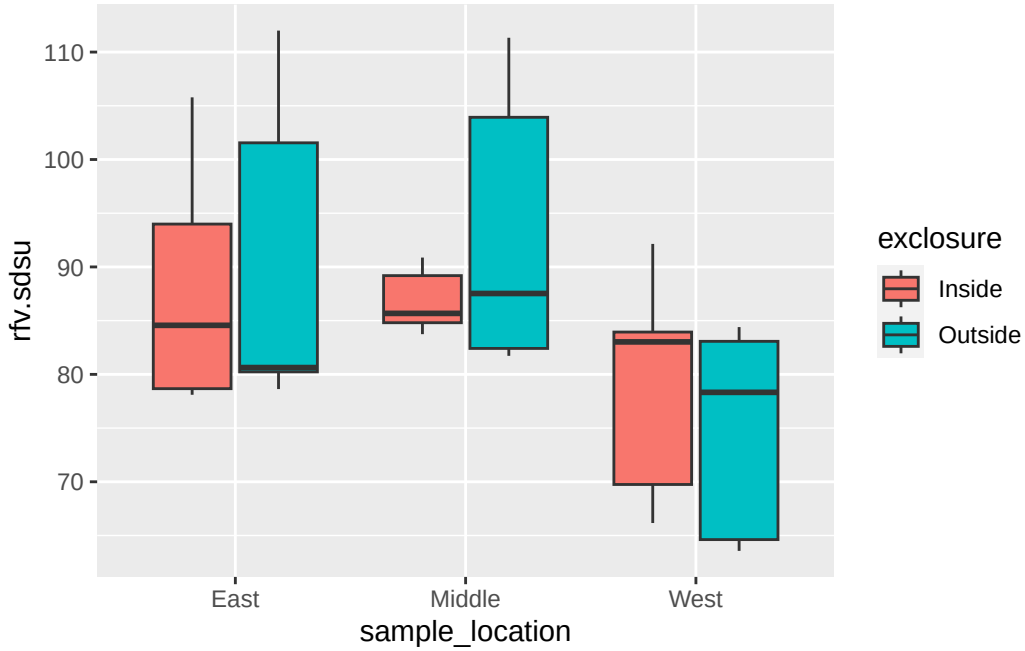




Comparisons





Conclusions

These are fall baseline samples of intermediate wheatgrass. We expect good quality forage. This would be protein around 15% and relative feed value of 150. We expect normally distributed data We do not expect any differences by exclosure (inside vs outside).