SOUTH DAKOTA-Alfalfa Variety Trials for South Dakota State University

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The alfalfa variety trial objective during its second year was to develop unbiased research to provide better estimates of which varieties work best under South Dakota environmental conditions and to evaluate seven different varieties in terms of tonnage. Table 1 shows average 2015 biomass production of varieties at the Northeast Research Farm near South Shore, SD. Table 2 shows total yield (tons/ac) of varieties during 2016. 2015 showed very small differences among varieties at this location. However, Genuity produced high yields during first cutting completed mid-summer, and Persist II lead second cutting in early September. A similar trend was shown during 2016 with no significant varietal differences at the same location; this season was challenged by dry conditions. However, yields were higher compared to the 2015 establishment year. Variety trial information continues to be needed as there has been little research in South Dakota since 2011. Alfalfa variety trials provide current knowledge of what actually happens in the field even when conditions are not optimum. Remember, weather patterns are a significant factor affecting yield in every growing season.

Table 1. 2015 average tons/ac harvested.

Entry	10-Aug	14-Sep	Total
Genuity	0.94	0.74	1.68
Check	0.87	0.65	1.52
Phirst Extra	0.85	0.63	1.48
Crave	0.81	0.62	1.43
Persist II	0.78	0.68	1.46
Salinity Max	0.78	0.58	1.36
Prolific II	0.69	0.48	1.17
Toughmax	0.65	0.43	1.08
Average	0.80	0.50	1.40
CV (%)	31.80	40.30	-
P-Value	0.88	0.56	-

Table 2. 2016 average tons/ac harvested four times.

Entry	26-May	28-June	3-Aug	1-Sep	Total
Genuity	2.14	2.55	2.83	1.67	9.19
Check	2.67	2.79	2.85	1.63	9.94
Phirst Extra	2.43	2.64	2.86	2.05	9.98
Crave	2.41	2.65	2.82	1.98	9.86
Persist II	2.30	2.30	2.82	1.87	9.29
Salinity Max	2.22	2.61	2.85	1.81	9.49
Prolific II	2.06	2.84	2.82	1.82	9.54
Toughmax	1.87	2.63	2.53	2.01	9.04
Average	2.26	2.63	2.80	1.86	9.55
CV (%)	19.51	11.76	7.79	18.55	-
P-Value	0.53	0.57	0.65	0.75	-