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LAND & LIVESTOCK

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Irrigated Perennial Cool Season Grass Hay Trial

Ninth year of trial conducted at Ray Daly's along lower Piney Creek in southern Sheridan County. Note: Yields were not obtained at Larry Vignaroli's along Clear Creek near Ucross in northern Johnson County in 2012. Larry apparently thought the trial was over and allowed the grass plots to be swathed when the alfalfa they were located by was. Plans are to sample at both locations in 2013.

Management Practices

Nitrogen fertilizer – actual lb N/ac

Daly's: none in 2004; 100 on 19 Apr 2005, 19 May 2006, 9 May 2007, and 5 May 2008; 68 on 28 Apr 2009; 60 on 16 Apr 2010; none in 2011; 60 on 26 Apr 2012.

Vignaroli's: none in 2004 and 2005; 30 on 12 May 2006; 100 on 1 May 2007, 7 May 2008, and 1 May 2009; none in 2010; 100 on 28 Apr 2011; none in 2012.

Spring Irrigations (Years not listed none)

Daly's (side roll): late May 2004, early June 2006 and 2009.

Vignaroli's (flood): late May 2006, mid-May 2008 and 2009.

Hay Yields

Over the nine years of the trial at Daly's; 'Manchar' smooth brome grass and 'Regar' meadow brome grass yielded an average of 3.0 T/ac of hay compared to 2.6 T/ac for 'Luna' and 'Mandan' pubescent wheatgrass and 'NewHy' hybrid wheatgrass (Table 1). However, at Vignaroli's; there was no difference in hay yields among the grasses with an eight year average of 3.2 T/ac.

Fluctuation of hay yields among the grasses over the years was primarily due to timing of moisture – precipitation and/or irrigation, and application of nitrogen fertilizer (Table 1).

Although all the grasses appeared to yield more hay at Vignaroli's compared to at Daly's the differences were significant for the two pubescent wheatgrasses.

Irrigated alfalfa hay yields between 2004 and 2011 for Johnson and Sheridan counties averaged 2.4 T/ac (Table 2). Hay yields of the grasses for the two sites averaged 3.0 T/ac.

Table 1: Grass hay yields (T/ac) at Ray Daly's along lower Piney Creek, southern Sheridan County, and at Larry Vignaroli's along lower Clear Creek, northern Johnson County.

Year	Day	Luna PWG ¹	Mandan PWG ¹	NewHy HWG ¹	Manchar SBG ¹	Regar MBG ¹	Yearly Averages
Ray Daly's:							
2004	23 Jun	2.60	2.58	2.27	2.12	2.05	2.32
2005	20 Jun	3.83	3.75	3.39	5.12	5.28	4.27
2006	21 Jun	2.88	2.71	2.64	3.36	2.71	2.86
2007	26 Jun	2.96	3.37	2.73	2.87	4.16	3.22
2008	26 Jun	1.32	1.18	1.30	2.11	1.80	1.54
2009	29 Jun	2.62	2.85	2.90	3.55	3.34	3.05
2010	29 Jun	2.33	2.22	1.63	2.61	3.18	2.40
2011	24 Jun	2.26	1.92	2.72	2.37	2.42	2.34
2012	21 Jun	2.27	2.95	2.79	3.02	2.74	2.75
<i>Grass Averages²</i>		<i>2.56c</i>	<i>2.62bc</i>	<i>2.52c</i>	<i>3.01ab</i>	<i>3.08a</i>	
Larry Vignaroli's:							
2004	30 Jun	2.41	2.19	2.24	2.29	1.19	2.06
2005	30 Jun	2.82	2.46	2.53	2.55	2.56	2.58
2006	26 Jun	2.62	2.91	2.32	2.08	1.49	2.28
2007	21 Jun	4.21	4.94	3.72	3.87	3.65	4.08
2008	26 Jun	3.96	4.57	3.92	4.76	4.38	4.32
2009	24 Jun	3.13	3.63	2.62	3.79	4.24	3.48
2010	28 Jun	2.96	2.89	2.49	3.64	3.74	3.14
2011	24 Jun	4.14	4.30	4.24	4.71	3.82	4.24
<i>Grass Averages²</i>		<i>3.22a</i>	<i>3.39a</i>	<i>3.01a</i>	<i>3.39a</i>	<i>3.10a</i>	

¹PWG = pubescent wheatgrass; HWG = hybrid wheatgrass; SBG = smooth brome grass; and MBG = meadow brome grass

²Grass Averages for each location followed by the same small letter are not significantly different at the 0.05 level of probability; i.e. yields are statistically the same.

Table 2: Average irrigated alfalfa hay yields (Tons/acre) 2004 through 2011 for Johnson and Sheridan counties (Wyoming Agricultural Statistics 2005 – 2011 issues)

County	2004	2005	2006	2007	2008	2009*	2010*	2011*	Average
Johnson	1.8	2.3	1.9	3.1	2.8	2.7	2.8	2.4	2.2
Sheridan	2.5	3.4	2.5	3.2	3.1	2.5	3.2	2.9	2.6
<i>Average</i>	<i>2.2</i>	<i>2.9</i>	<i>2.2</i>	<i>3.2</i>	<i>3.0</i>	<i>2.6</i>	<i>3.0</i>	<i>2.7</i>	2.4

*Irrigated and non-irrigated yields no longer reported separately thus values are an extrapolation.