

2015 ALFALFA VARIETIES



Montana Alfalfa Variety Performance Summaries



COLLEGE OF AGRICULTURE
AGRICULTURE EXPERIMENT STATION
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<http://animalrangeextension.montana.edu/forage/>

2015 Alfalfa Varieties: Performance Summaries of the 2015 Montana Uniform Alfalfa Intrastate Forage Yield Trials

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Alfalfa is one of the most productive and widely-adapted forage species. In Montana, average alfalfa acreage harvested from the years 2014-2016 totaled 1.8 million and generated \$466 million per year. In 2016 alone, Montana produced 3.6 million tons of alfalfa hay, on 1.8 million acres. Alfalfa hay production equated to \$479 million in revenue for the state of Montana in 2016.

(usda.mannlib.cornell.edu/usda/current/CropProdSu/CropProdSu-01-12-2017.pdf;

usda.mannlib.cornell.edu/usda/nass/CropValuSu//2010s/2017/CropValuSu-02-24-2017_revision.pdf;
https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=MONTANA)

Over 90% of all Montana hay is fed on-site. Since winter feed is the largest expense for farm and ranch operations, efficient and optimum hay production is crucial to ranch profitability. Hundreds of alfalfa varieties are available to US producers, and performance trials are designed to assist Montana producers in choosing appropriate adapted varieties. Performance of these varieties (yield and forage quality) varies across the state of Montana due to differences in individual farm/ranch environments and production methods.

Alfalfa variety performance trials were conducted at the National Resources Conservation Service (NRCS), in Bridger, Montana and at the Western Agricultural Research Center (WARC), in Corvallis, Montana. Alfalfa variety research at the NRCS was irrigated using a flood irrigation system and research at the WARC utilized a sprinkler irrigation system. New varieties were tested for forage yield for two production years after establishment at both the NRCS and the WARC. All trials were planted in randomized complete block experiments, with four replications. Trials received adequate fertilization and weed control for optimum expression of genetic differences among varieties. This publication summarizes yield performance at two locations for trials planted in 2015. Table 1 and Figure 3 are summaries of data at both locations, Tables 2 and 3 and Figures 1 and 2 are individual location summaries.

Montana producers should select a variety based on its winterhardiness, yield potential, pest resistance, and availability. It is recommended that producers use the performance data in this publication to select varieties that are most likely to express optimum performance based on individual farm/ranch geography. We are unable to maintain long-term (10+ years) research plots to evaluate long-term survival and production. It is important to evaluate performance in the 3rd and 4th years of production at individual locations, as downward trends in yield may indicate winter injury or persistence problems. Additional variety descriptions for species selection, seeding techniques, and management of irrigated pastures specific to alfalfa production in Montana are available at: <http://animalrangeextension.montana.edu/forage/forage-management.html>

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Table 1. Summary of uniform alfalfa variety trials in Bridger and Corvallis Montana planted in **2015** and harvested in **2015, 2016, and 2017**.
(Yield in tons of dry matter/acre/year)

Variety	Bridger Irrigated	Corvallis Irrigated	Statewide Average (%Mean)
Cooper	3.45	2.33	111%
SW5213A	3.17	2.53	109%
Ranger II	3.13	2.49	108%
PG1424	--	2.80	107%
SW55124	3.33	1.03	103%
CW A11403	3.02	2.30	102%
SW 5113	2.87	2.29	99%
FG410W26	2.87	2.20	97%
Shaw	3.02	1.10	97%
SW5213B	2.77	2.31	97%
SW5909	3.29	1.72	96%
SW5213	2.88	2.07	95%
FSG329	2.64	1.27	94%
FSG426	2.69	2.16	93%
CW103009	2.94	1.88	92%
Rugged	--	1.98	76%
Location Mean	3.00	2.21	

-- indicates no data is available for a variety at this location

Table 2. Summary of the Montana uniform intrastate alfalfa yield trial at Bridger- irrigated.

Variety	Tons of dry matter/acre										3-year Mean	% Mean
	2015 Total	2015 H1	2016 Total	2016 H1	2016 H2	2016 H3	2017 Total	2017 H1	2017 H2	2017 H3		
Cooper	0.99	0.99	4.86	1.58	0.92	2.36	4.49	2.09	1.20	1.20	3.45	115%
SW55124	0.88	0.88	4.53	1.52	0.95	2.06	4.58	1.96	1.46	1.17	3.33	111%
SW5909	0.51	0.51	5.22	1.20	1.86	2.17	4.14	1.78	1.22	1.14	3.29	110%
SW5213A	0.98	0.98	4.60	1.56	1.14	1.89	3.93	1.84	1.14	0.95	3.17	106%
Ranger II	0.90	0.90	4.17	1.18	0.97	2.02	4.32	1.86	1.26	1.20	3.13	104%
CW A11403	0.74	0.74	4.53	1.23	0.98	2.32	3.79	1.59	1.28	0.93	3.02	101%
Shaw	0.88	0.88	3.90	0.76	1.03	2.11	4.27	1.85	1.36	1.07	3.02	101%
CW103009	0.90	0.90	3.62	0.67	0.95	1.99	4.29	2.01	1.31	0.97	2.94	98%
FG410W26	0.63	0.63	3.99	1.13	0.89	1.97	3.98	1.67	1.20	1.11	2.87	96%
SW 5113	0.62	0.62	3.81	0.89	1.02	1.90	4.19	1.83	1.25	1.10	2.87	96%
SW5213	0.85	0.85	3.76	0.64	1.12	2.00	4.02	1.65	1.24	1.13	2.88	96%
SW5213B	0.98	0.98	3.67	0.71	1.06	1.90	3.64	1.27	1.22	1.15	2.77	92%
FSG426	0.72	0.72	3.60	1.03	0.82	1.74	3.77	1.56	1.23	0.97	2.69	90%
FSG329	0.58	0.58	3.72	0.44	0.85	2.44	3.61	1.73	0.95	0.94	2.64	88%
Mean	0.80	0.80	4.14	1.04	1.04	2.06	4.07	1.76	1.24	1.07	3.00	

**H1 represents harvest 1, H2 represents harvest 2, and H3 represents harvest 3

Table 3. Summary of the Montana uniform intrastate alfalfa yield trial Corvallis - irrigated.

Variety	Tons of dry matter/acre									
	2015 Total	2015 H1	2016 Total	2016 H1	2016 H2	2017 Total	2017 H1	2017 H2	<i>3-year Mean</i>	<i>% Mean</i>
PG1424	0.94	0.94	4.32	2.60	1.73	3.14	2.00	1.15	2.80	138%
SW5213A	0.79	0.79	3.79	2.11	1.69	3.00	1.73	1.27	2.53	125%
Ranger II	0.94	0.94	3.86	2.29	1.57	2.66	1.54	1.12	2.49	122%
Cooper	0.83	0.83	3.60	2.12	1.48	2.56	1.51	1.05	2.33	115%
SW5213B	1.04	1.04	3.16	1.80	1.37	2.73	1.59	1.14	2.31	114%
SW 5113	1.02	1.02	3.06	1.74	1.32	2.78	1.48	1.30	2.29	113%
CW A11403	0.81	0.81	3.44	1.92	1.52	2.66	1.46	1.20	2.30	113%
FG410W26	0.75	0.75	3.27	1.92	1.35	2.59	1.39	1.20	2.20	109%
FSG426	0.85	0.85	2.82	1.50	1.32	2.82	1.86	0.96	2.16	107%
SW5213	0.74	0.74	2.95	1.66	1.29	2.52	0.96	0.91	2.07	102%
FSG329	0.90	0.90	2.99	1.79	1.79	2.90	1.81	1.09	2.26	102%
Rugged	0.62	0.62	2.97	1.62	1.35	2.35	1.35	1.00	1.98	98%
CW103009	0.83	0.83	2.81	1.62	1.18	2.00	1.05	0.95	1.88	93%
Shaw	0.86	0.86	2.86	1.53	1.33	2.43	1.32	1.11	2.05	93%
SW5512Y	0.81	0.81	3.00	1.65	1.35	2.27	1.29	0.98	2.03	92%
SW5909	0.81	0.81	2.31	1.30	1.01	2.03	1.32	0.71	1.72	84%
Mean	0.85	0.85	3.20	1.82	1.42	2.59	1.48	1.07	2.21	

**H1 represents harvest 1, H2 represents harvest 2, and H3 represents harvest 3

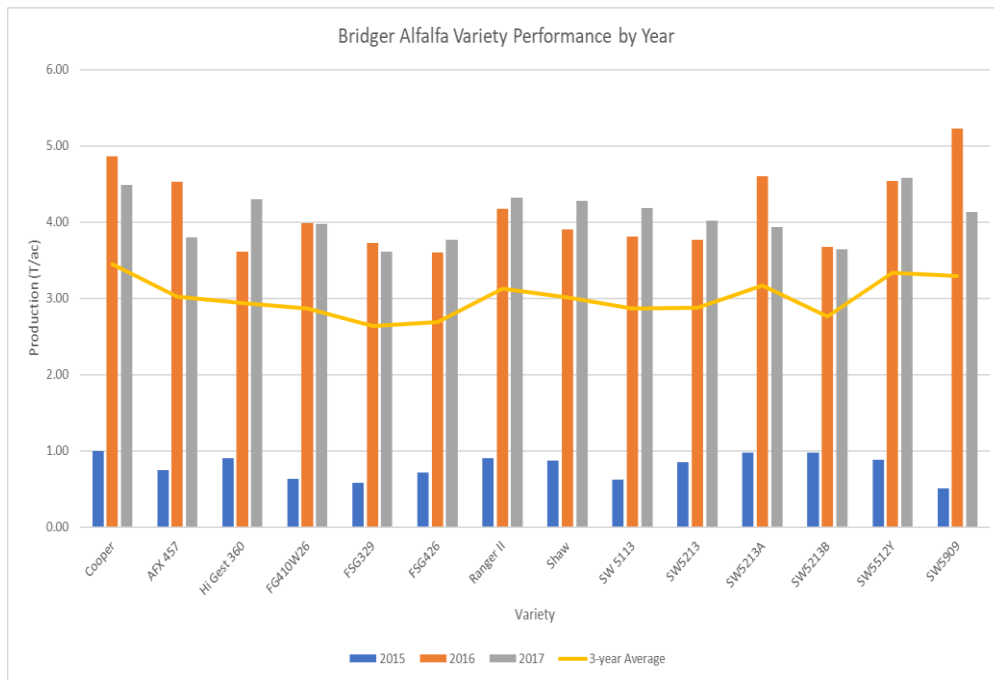


Figure 1. Yearly performance summary and 3-year average for alfalfa varieties in Bridger, Montana.

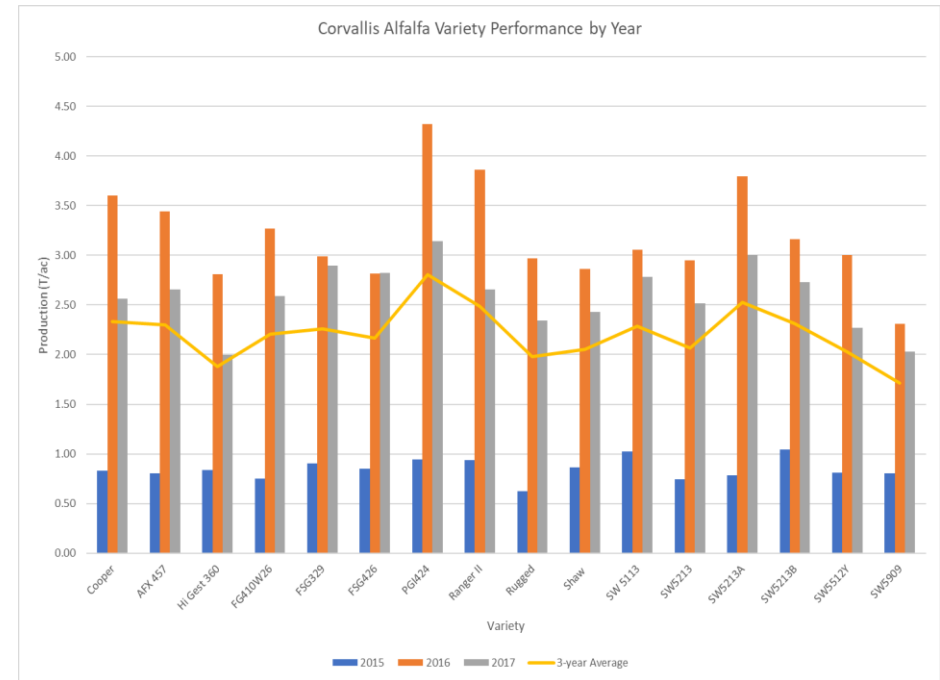


Figure 2. Yearly performance summary and 3-year average for alfalfa varieties in Corvallis, Montana.

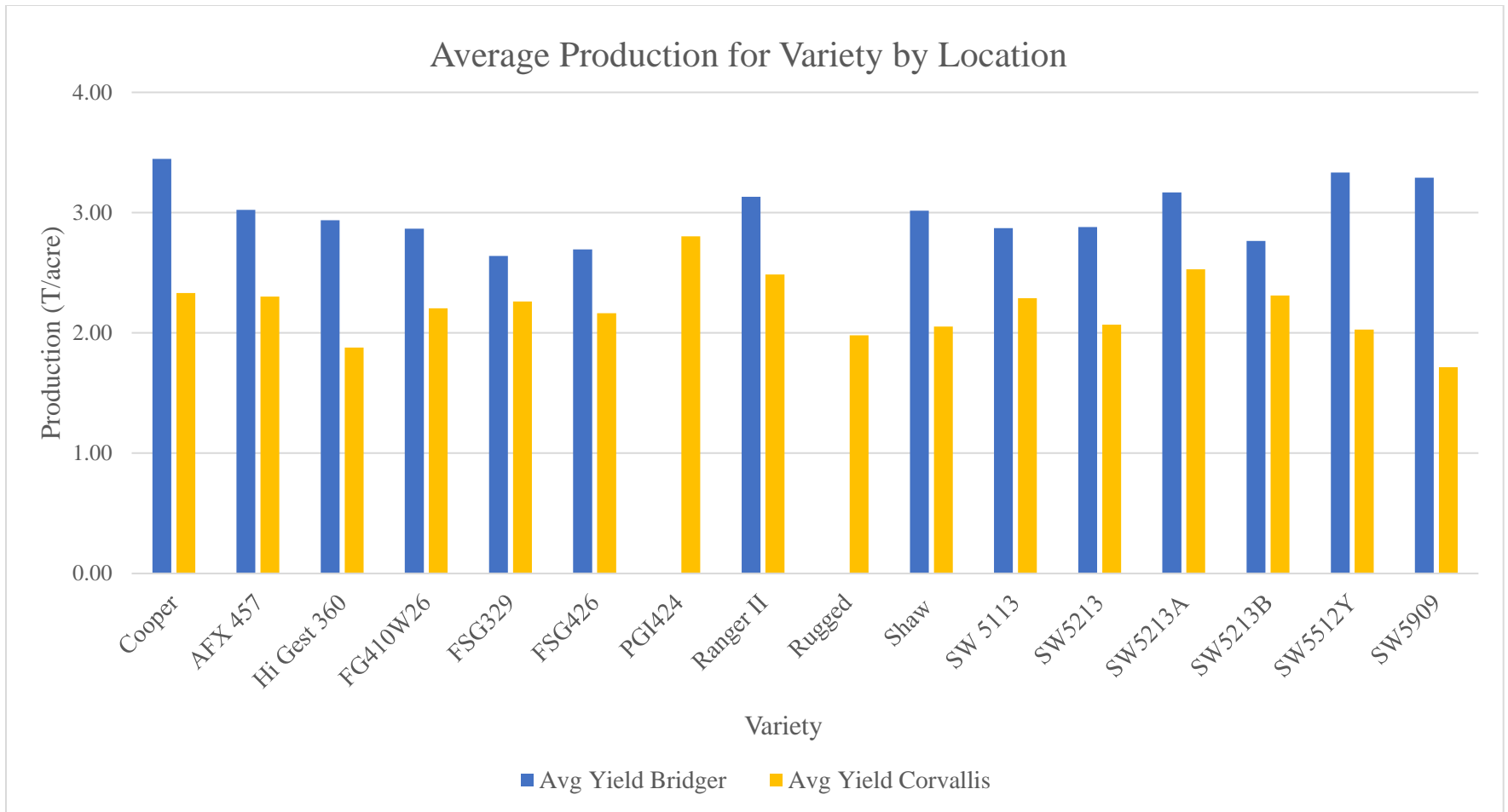


Figure 3. Alfalfa variety performance summary for varieties planted in Bridger and Corvallis, Montana, based on 3-year average production values.

Reference Material

Winter Survival, Fall Dormancy, and Pest Resistance Ratings for Alfalfa Varieties, 2018 Edition

National Alfalfa Alliance Publication Available online at:

<http://www.alfalfa.org/varietyLeaflet.php>

Historical Alfalfa Variety Performance Summaries (2011 and 2014)

Available online at:

<http://animalrangeextension.montana.edu/forage/alfalfa-varieties.htm>