

Irrigated Alfalfa Variety Performance Trials

Alfalfa is the most important crop in Utah, both in terms of acreage and revenue. One of the most important decisions made in alfalfa production is determining which variety to plant. The attached table summarizes a four year variety trial at the Utah Agricultural Experiment Station Greenville Farm in North Logan.

Seed marketers were contacted and invited to submit alfalfa cultivar entries for inclusion in the trial. Ranger was included as a check variety for comparison with newer genotypes. Entries were seed drilled at 18 lbs/acre in a randomized complete block design with five replications. Plots were sprinkler irrigated at approximately 10 day intervals throughout the test period. Initial soil tests indicated fertility was adequate, with the exception of sulfur. As such, sulfur was applied at 20 lbs/acre. Soils were tested annually thereafter and fertilized according to USU recommendations. Few insect pests were present, with the exception of some weevil and aphid. No insecticides were used during the trial. Weeds were also minimal, with no herbicide treatment required except an application of imazamox (Raptor) during stand establishment.

Plots were harvested in the early-bud to early-bloom stages, twice the first year and four times annually thereafter. Fresh weight of forage above a 3 inch stubble was obtained from each plot and a subsample was oven dried after each cutting to determine dry matter. Results of the study are listed in the table below.

Alfalfa varieties ranked by 4-year mean annual dry matter (DM) production at North Logan, UT. Plots were seeded at 18 lb bulk seed/ac on May 9, 2011, and harvested two times in 2011 and four times annually in 2012-2014 at early-bud to mid-bloom stages.

Cultivar	Source/Marketer	FD ^a	Season-total DM production					4-yr mean
			2011	2012	2013	2014	Tons DM/ac	
FG 46W202	Forage Genetics Intl.	4	2.96	9.61	9.47	8.58	7.66	
AmeriStand 407TQ	America's Alfalfa	4	3.15	10.11	9.26	7.90	7.61	
Gunner	Croplan Genetics	5	2.96	8.99	9.68	8.67	7.58	
DKA 50-18	DeKalb	5	3.25	9.41	9.46	8.11	7.56	
6422Q	Syngenta Seeds	4	3.03	9.91	8.92	8.26	7.53	
WL 363 HQ	W-L Research	5	2.93	10.12	8.66	8.11	7.45	
6305Q	Syngenta Seeds	3	2.94	9.77	8.83	7.95	7.37	
FG 48A178	Forage Genetics Intl.	4	2.80	8.59	8.84	8.81	7.26	
DKA 43-13	DeKalb	4	2.74	8.54	9.17	8.49	7.24	
6431	Syngenta Seeds	4	3.37	9.98	8.44	7.12	7.23	
LegenDairy 5.0	Croplan Genetics	3	2.88	9.36	9.11	7.53	7.22	
AmeriStand 445NT	America's Alfalfa	4	3.11	9.08	8.72	7.80	7.18	
Mountaineer 2.0	Croplan Genetics	5	3.35	9.61	8.95	6.81	7.18	
WL 354HQ	W-L Research	4	2.91	8.30	9.02	8.30	7.13	
FSG 429SN	Allied Seed	4	3.31	9.31	8.20	7.67	7.12	
FSG 329	Allied Seed	3	3.53	8.90	8.37	7.60	7.10	

Hybriforce-2400	Dairyland Seed	4	3.27	9.00	8.13	7.96	7.09
Rebound 6.0	Croplan Genetics	4	2.82	9.11	8.64	7.78	7.09
Lightning IV	Eureka Seeds	4	2.86	9.24	7.78	8.06	6.99
Lander	Allied Seed	3	3.49	9.21	7.71	7.34	6.94
54VR03	Pioneer Hi-Bred	4	3.03	9.14	8.50	7.02	6.92
DG 4210	Crop Production Services	4	3.23	9.05	8.17	7.09	6.89
Ranger	Public	3	2.68	8.83	7.74	6.58	6.46
Mean			3.07	9.27	8.69	7.81	7.21
LSD (0.05)			0.40	0.82	0.74	0.77	0.42
CV (%)			10.3	7.0	6.7	7.8	4.6