



Colorado Agricultural Experiment Station
Western Colorado Research Center-Fruita
1910 L Road, Fruita, CO, 81521

2018 ALFALFA VARIETY TRIAL REPORT

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Details

Location: Fruita, CO

Experimental design: Randomized complete block design with four replications

Soil texture: Clay

Irrigation method: Furrow

Previous crop: Winter wheat

Seeding date: Sep 7, 2017

Seeding rate: 16 lb/ac (triple row on 30" wide beds)

Fertilizer: None (soil P and K were high)

Herbicide: Clothedim @ 5 fl Oz/ac on 04/14/2018.

Insecticide: Dimethoate @ 8 fl OZ/ac on 04/23/2018 and Silencer @ 3.2 fl Oz/ac on 05/10/2018.

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List of Entry

#	Entry	Source	Com or Exp	Conv or RR	FD	WS	SN	BW
1	518NT	AmeriStand	Com	Conv	7		HR	MR
2	545NT RR	AmeriStand	Com	RR	5		HR	R
3	445NT	AmeriStand	Com	Conv	4		HR	HR
4	415NT RR	AmeriStand	Com	RR	4		HR	HR
5	6585Q	NEXGROW	Com	Conv	5	2	HR	HR
6	6401N	NEXGROW	Com	Conv	4		HR	HR

Table 1: Forage yield and quality of alfalfa varieties in 1st cut (06/13/2018 at 30% flowering).

Entry	Dry forage yield (lb/ac)	CP %	ADF %	aNDF %	dNDF30 %	dNDF48 %	IVTDMD30 %	IVTDMD48 %	Lignin %	Ash %	Fat %	Ca %	P %	K %	Mg %
415NT RR	5291	17.3	30.61	35.52	11.70	14.72	70.60	78.71	8.04	9.99	1.40	1.28	0.23	3.20	0.29
545NT-RR	4512	17.2	30.76	35.10	11.72	14.78	70.74	79.38	7.92	10.46	1.37	1.25	0.23	3.34	0.30
445NT	4933	16.9	32.04	36.58	12.23	15.13	69.94	78.20	8.20	9.78	1.32	1.23	0.24	3.18	0.29
518NT	3906	17.6	31.72	35.81	11.26	14.45	69.31	78.13	8.14	10.42	1.35	1.21	0.23	3.28	0.28
6401N	4716	17.5	30.79	35.04	12.03	15.00	71.29	79.70	8.00	10.09	1.40	1.30	0.24	3.34	0.31
6585Q	4895	17.8	29.68	33.82	11.08	14.28	71.45	80.12	7.99	10.11	1.46	1.31	0.23	3.31	0.29
Average	4684	17.4	30.93	35.31	11.67	14.73	70.56	79.04	8.05	10.14	1.38	1.26	0.23	3.27	0.29
F value	0.0213	0.7518	0.293	0.4763	0.1993	0.5354	0.5007	0.2524	0.8507	0.5698	0.442	0.6341	0.9761	2.972911	0.6464
CV	9.8	5.4	4.7	5.4	5.8	4.7	2.4	1.7	4.1	5.7	6.8	7.0	5.9	0.1	6.8
LSD ($P \leq 0.05$)	717														

Table 2: Forage yield and quality of alfalfa varieties in 2nd cut (07/20/2018 at 10% flowering).

Entry	Dry forage yield (lb/ac)	CP %	ADF %	aNDF %	dNDF30 %	dNDF48 %	IVTDMD30 %	IVTDMD48 %	Lignin %	Ash %	Fat %	Ca %	P %	K %	Mg %
415NT RR	2806	20.8	26.61	31.79	10.72	15.63	73.34	82.03	7.40	10.12	1.46	1.13	0.26	3.46	0.28
545NT-RR	2636	19.6	29.55	34.85	11.77	16.14	71.73	80.12	7.62	9.67	1.35	1.02	0.26	3.40	0.25
445NT	2992	19.4	29.73	35.05	11.40	16.33	70.79	79.61	7.87	9.25	1.30	1.01	0.25	3.33	0.25
518NT	2897	18.1	30.96	36.65	11.45	16.14	68.94	78.00	8.09	9.31	1.25	1.04	0.23	3.28	0.24
6401N	2860	19.3	28.92	34.23	11.64	16.27	71.64	80.48	7.62	9.44	1.34	1.05	0.25	3.38	0.26
6585Q	2738	19.7	28.34	33.83	10.95	15.73	71.56	80.17	7.74	9.68	1.38	1.06	0.25	3.38	0.25
Average	2822	19.5	29.02	34.40	11.32	16.04	71.33	80.07	7.73	9.58	1.35	1.05	0.25	3.37	0.26
F value	0.9135	0.1115	0.0759	0.1276	0.3398	0.7376	0.066	0.124	0.1503	0.2048	0.2403	0.6445	0.1385	0.7866	0.4332
CV	16.5	6.1	6.4	6.5	6.4	4.9	2.5	2.3	4.5	5.1	8.7	9.4	5.8	5.2	9.5
LSD ($P \leq 0.05$)															

Table 3: Forage yield and quality of alfalfa varieties in 3rd cut (09/11/2018 at 10% flowering).

Entry	Dry forage yield (lb/ac)
415NT RR	3335
545NT-RR	3486
445NT	3529
518NT	3662
6401N	3383
6585Q	3379
Average	3462
F value	0.8711
CV	11.8
LSD ($P \leq 0.05$)	

Table 4: Forage yield of alfalfa varieties in 2018 (1st cut, second cut, third cut, and sum of the three cuts)

Entry	Source	Dry forage yield (lb/ac) cut 1	Dry forage yield (lb/ac) cut 2	Dry forage yield (lb/ac) cut 3	Total Dry forage yield In 2018 (lb/ac)	Total dry forage yield In 2018 (ton/ac)
415NT RR	AmeriStand	5291	2806	3336	11433	5.7
545NT-RR	AmeriStand	4512	2636	3486	10635	5.3
445NT	AmeriStand	4933	2992	3529	11455	5.7
518NT	AmeriStand	3906	2897	3662	10465	5.2
6401N	NEXGROW	4716	2860	3383	10960	5.5
6585Q	NEXGROW	4895	2738	3379	11013	5.5
Average		4709	2822	3463	10994	5.5
F value		0.0213	0.9135	0.8711	0.5426	
CV		9.8	16.5	11.8	6.9	
LSD ($P \leq 0.05$)		717	NA	NA	1183	