



2015

# Washington State Hay Growers Association

## ALFALFA VARIETY

## YIELD TRIALS

# Conducted by Washington State University Extension

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# Washington State Hay Growers Association

## Alfalfa Variety Trials

### Conducted by Washington State University Extension

Nine alfalfa trials were harvested for yield in irrigated central Washington State in 2015. The Washington State Hay Growers Association (WSHGA) sanctions the trials with contracts with Washington State University (WSU) Extension to conduct and report the research. Three trials are conducted near Othello, WA and six trials near Pasco, WA.

The Othello site is located on the WSU Othello research farm 6 miles ESE of Othello, WA at Lat: N46°47'41 Lng: W119°02'33 and at an elevation of 1154 feet. One Pasco site is located on Selph Landing Road about 8 miles North of Pasco, WA at Lat: N46°19'75, Lng: W119°09'94 at an elevation of 457 feet, the other west of Garfield Road at Lat: N46°28'999, Lng: W119°06'852.

The soils are a Shano silt loam (coarse-silty, mixed-mesic Xerollic Camborthids) at Othello, and a Sagehill very fine sandy loam (coarse-loamy, mixed, mesic Xerillic Camborthids) at the Garfield Road location. All trials were sprinkler irrigated throughout the April-October growing season. The frost-free (32°F) period at Othello averages 180 days and 209 days at Pasco.

Each trial is arranged in a randomized complete block (RCB) design with 4 replications. All are seeded at about 22 lbs/ac in rows spaced 6 inches apart with a 1-foot inter-plot separation. Plot size is 4 x 15 feet. The trials contain some experimental entries that are not available for commercial planting. Forage yields are normally collected for each submitted entry for three years on each planting. Coefficient of Variation or "CV" is estimated using statistics and gives an estimate of the variability in the field. The lower the number the less variation in the measurements taken and the more likely you can determine a significant difference between treatments. Least significant difference or "LSD" is also determined for each measured effect. If the difference between two treatment means is greater than the LSD then you can determine that one variety yielded greater than another with a high level of confidence.

Tables 1 and 2 contain a summary of annual total of yields for alfalfa varieties since the fall planting in 2010 at the Pasco and Othello locations. Yields are presented in percent of mean of the test for ease of comparison. Table 3 is from: NAFA's "Winter Survival, Fall Dormancy & Pest Resistance Ratings for Alfalfa Varieties – 2016 Edition and previous editions". For a complete copy of the NAFA document visit [www.alfalfa.org/varietyLeaflet.php](http://www.alfalfa.org/varietyLeaflet.php).

Forage yields for each harvest, total season yield for 2015 and the totals for all years of the trials to date are reported in Tables 4 through 12. Yields are determined from whole plot fresh weights converted to a dry matter basis using a constant dry matter fraction of 20%. Ratings for regrowth after 4<sup>th</sup> cutting were taken on September 21 & October 6, 2015, respectively, and represent visual ratings from 1-5. Rating scale was: 1 - little to no regrowth, 2 – below average regrowth, 3 - average regrowth, 4 - above average regrowth, and 5 - high amount of regrowth.

At the end of each experiment final stands were evaluated for percent stand. This was determined by visually determining how many 6 inch gaps were found between plants in

each of the seeded rows compared to the number of 6 inch blocks there are in a plot and calculating the percentage.

The WSHGA-WSU goal for the alfalfa variety testing project is to identify varieties for growers that are adapted to the Columbia Basin region that will tolerate both biotic (pests) and abiotic (environmental) stresses.

The summer of 2015 was the hottest summer on record at Prosser and many other locations in the Basin. Good irrigation was critical again this year.

I want to especially thank Eric Rommereim and David Rommereim for their assistance with this year's trials and planting of next years trials. I also want to thank the Washington State Hay Growers Association and Washington State University Extension for their continued support.

Please don't hesitate to contact me if you have any questions on the trials.

Sincerely,

A handwritten signature in black ink that reads "Steve Norberg". The signature is written in a cursive style with a large, sweeping "S" at the beginning and a long, trailing flourish at the end.

**Table 1. 2014 Summary of Conventionally Sprayed Alfalfa Yield Trials Since fall of 2010 - Othello, WA**

Entry	Seeded August 2010				Seeded August 2011				Seeded August 2012				Seeded August 2013				6 YR Avg. of 2010 & 2011 Trials	6 YR Avg. of 2011 & 2012 Trials		
	2011	2012	2013	3 Yr.	2012	2013	2014	3 Yr.	2013	2014	2015	3 Yr.	2014	2015	2016	2 Yr.				
12005													105.1%	96.7%		101.4%				
4R200					111.6%	101.6%	104.2%	<b>105.7%</b>												
55Q27									106.5%	108.4%	110.7%	<b>108.4%</b>								
6305Q	93.0%	98.0%	99.1%	<b>98.6%</b>	96.4%	105.7%	105.9%	<b>102.7%</b>										<b>100.7%</b>		
6422Q	92.2%	100.4%	101.7%	<b>99.5%</b>																
6585Q													105.6%	104.9%		105.3%				
AmeriStand 407TQ	99.7%	99.1%	103.2%	<b>100.8%</b>	99.8%	104.9%	104.5%	<b>103.1%</b>										<b>102.0%</b>		
AmeriStand 427TQ													98.4%	101.6%		99.8%				
AmeriStand 445NT	106.2%	94.1%	98.0%	<b>98.0%</b>	115.8%	110.3%	108.2%	<b>111.3%</b>					98.5%	103.7%		100.8%		<b>104.7%</b>		
Camas													96.0%	94.2%		95.2%				
CB001					102.8%	98.7%	101.4%	<b>100.9%</b>	96.7%	94.2%	97.9%	<b>96.2%</b>						<b>98.6%</b>		
CB11001									100.4%	98.6%	98.3%	<b>99.2%</b>								
CB11011									98.2%	95.1%	86.5%	<b>93.6%</b>								
CW 104038									98.2%	96.1%	94.5%	<b>96.4%</b>								
DG4210	94.9%	106.2%	105.8%	<b>104.0%</b>	92.9%	85.1%	84.8%	<b>87.5%</b>	105.7%	110.7%	108.8%	<b>108.3%</b>	103.6%	100.7%		102.3%		<b>95.8%</b>	<b>98.0%</b>	
DKA 34-17 RR					104.6%	102.0%	100.1%	<b>102.2%</b>												
DKA 41-18 RR					101.7%	96.7%	99.3%	<b>99.2%</b>												
DKA 43-13	105.7%	99.8%	102.4%	<b>102.0%</b>					101.6%	105.5%	105.3%	<b>104.0%</b>								
DKA 43-22 RR					108.7%	102.6%	103.7%	<b>104.9%</b>												
DKA 50-18									99.7%	105.2%	108.9%	<b>104.3%</b>								
DSB01-T					105.9%	91.5%	90.5%	<b>95.8%</b>												
DSB08-M					110.1%	101.9%	94.8%	<b>102.2%</b>												
DSD01-T													110.4%	111.2%		110.8%				
DSD06-M													104.7%	103.0%		104.0%				
Enhancer II					106.3%	97.1%	90.8%	<b>98.6%</b>												
FGI 48W201					101.9%	104.4%	102.2%	<b>102.9%</b>												
FGI 48W202					94.2%	102.4%	107.0%	<b>101.2%</b>												
FGI 48W203					102.7%	106.9%	109.6%	<b>106.4%</b>	95.0%	108.2%	105.8%	<b>102.6%</b>							<b>104.7%</b>	
FGI R58HG236					100.2%	100.4%	106.0%	<b>102.2%</b>												
FSG403LR													102.7%	106.8%		104.5%				
FSG423ST													98.9%	97.7%		98.4%				
FSG424													96.9%	97.5%		97.1%				
GrandStand	102.3%	101.8%	98.8%	<b>100.5%</b>	100.3%	104.6%	106.5%	<b>103.8%</b>					96.7%	98.4%		97.4%			<b>102.2%</b>	
Gunner					114.1%	114.7%	114.9%	<b>114.6%</b>												
Hybri Force-240	108.7%	95.2%	94.1%	<b>97.2%</b>																
HybriForce-3400					114.0%	99.2%	92.8%	<b>101.9%</b>												
LegenDairy 5.0	96.8%	98.7%	99.6%	<b>98.6%</b>	101.2%	102.6%	103.4%	<b>102.4%</b>											<b>100.5%</b>	
Magna 551	102.7%	101.4%	96.3%	<b>99.5%</b>																
Magnum 7					109.7%	99.3%	100.3%	<b>103.0%</b>	111.5%	103.4%	103.3%	<b>106.3%</b>							<b>104.6%</b>	
MasterPiece II					103.8%	104.3%	105.0%	<b>104.4%</b>	104.7%	103.0%	103.6%	<b>103.8%</b>							<b>104.1%</b>	
Nimbus													101.4%	103.3%		102.2%				
PGI 424					103.2%	100.1%	101.1%	<b>101.1%</b>												
Rebound 6.0	100.6%	100.8%	99.2%	<b>100.1%</b>	103.0%	105.2%	104.7%	<b>104.3%</b>											<b>102.2%</b>	
Seneca									100.8%	102.6%	100.1%	<b>101.2%</b>								
Vernal									81.9%	82.6%	83.1%	<b>82.5%</b>	82.0%	81.0%		81.5%				
Vernema									97.7%	89.0%	90.6%	<b>92.7%</b>	99.1%	99.4%		99.2%				
Whitney									101.4%	97.6%	102.3%	<b>100.4%</b>								
WL 354HQ					104.8%	109.5%	112.6%	<b>109.0%</b>												
WL 363HQ	97.1%	102.2%	101.8%	<b>101.0%</b>																
<b>AV-T/AC</b>	<b>4.39</b>	<b>9.55</b>	<b>10.42</b>	<b>24.35</b>	<b>9.81</b>	<b>9.52</b>	<b>9.13</b>	<b>27.62</b>	<b>11.60</b>	<b>10.26</b>	<b>9.70</b>	<b>31.55</b>	<b>12.03</b>	<b>9.42</b>		<b>21.46</b>				
<b>LSD Years 9-11 (0.05)</b>	<b>NS</b>	<b>NS</b>	<b>6.0%</b>	<b>NS</b>	<b>9.8%</b>	<b>7.7%</b>	<b>9.1%</b>	<b>8.1%</b>	<b>7.5%</b>	<b>5.7%</b>	<b>7.3%</b>	<b>5.6%</b>	<b>6.3%</b>	<b>8.2%</b>		<b>6.6%</b>				
<b>Years 12- 15 (0.10)</b>																				
<b>CV (%)</b>	<b>8.4%</b>	<b>4.6%</b>	<b>4.6%</b>	<b>3.9%</b>	<b>7.9%</b>	<b>5.4%</b>	<b>6.5%</b>	<b>5.8%</b>	<b>6.3%</b>	<b>4.7%</b>	<b>6.1%</b>	<b>4.7%</b>	<b>5.3%</b>	<b>6.9%</b>		<b>5.6%</b>				

**Table 2. 2014 Summary of Conventionally Sprayed Alfalfa Yield Trials Since 2010 - Franklin County, WA**

Entry	Seeded August 2010				Seeded August 2011				Seeded August 2012				Seeded August 2013				6 YR Avg.	
	2011	2012	2013	3 Yr.	2012	2013	2014	3 Yr.	2013	2014	2015	3 Yr.	2014	2015	2016	2 Yr.	Seeded 10 & 11	Seeded 11 & 12
12005													100.5%	107.5%		104.5%		
55Q27									99.4%	104.9%	99.7%	101.3%						
6401N									100.3%	101.4%	101.8%	101.1%						
6422Q					107.7%	104.5%	105.5%	105.8%										
64Q22	92.8%	102.9%	103.8%	101.6%														
6585Q													102.5%	100.8%		101.5%		
6R100					102.7%	100.1%	99.3%	100.5%										
AmeriStand 407TQ	98.8%	96.9%	98.7%	97.9%	103.2%	100.5%	100.4%	101.2%									99.6%	
AmeriStand 427TQ													92.8%	94.9%		94.0%		
AmeriStand 445NT	100.4%	100.8%	101.0%	100.8%	108.6%	104.1%	106.8%	106.3%	100.8%	101.0%	103.2%	101.7%	105.9%	106.1%		106.0%	103.6%	104.0%
Archer III	103.1%	101.1%	102.6%	102.2%														
Camas													103.7%	105.6%		104.8%		
CB11001									106.1%	99.1%	104.1%	103.1%						
CB11011									91.8%	98.5%	104.0%	98.0%						
CB9003									96.1%	100.4%	103.0%	99.7%						
CW 085028									99.5%	107.4%	97.7%	101.5%						
DG 4210	112.4%	105.1%	103.0%	105.4%	102.0%	93.0%	98.1%	97.3%	103.2%	99.2%	96.3%	99.7%	105.9%	96.7%		100.6%	101.4%	98.5%
DKA 41-18 RR					109.3%	99.5%	97.0%	101.4%										
DKA 43-13	95.0%	96.4%	98.3%	97.1%					99.6%	99.5%	97.9%	99.0%						
DKA 43-22 RR					105.4%	103.5%	104.0%	104.2%										
DKA 50-18	102.0%	103.1%	100.8%	101.7%					101.5%	100.1%	96.9%	99.6%						
FGI 48W201					104.3%	98.5%	106.1%	102.8%										
FGI 48W202					101.3%	103.9%	102.7%	102.8%										
FGI 48W203					103.1%	100.0%	105.8%	102.9%	103.7%	103.1%	101.1%	102.7%						102.8%
FGI 59W212					102.2%	100.9%	99.3%	100.7%										
FGI R58HG236					101.4%	101.6%	105.7%	102.9%										
FSG524													104.8%	107.8%		106.6%		
GrandStand	102.2%	104.6%	103.8%	103.9%	101.2%	103.4%	97.7%	100.8%					100.6%	100.3%		100.4%	102.4%	
Gunner									96.5%	101.2%	94.7%	97.4%						
HybriForce-2600					109.5%	104.0%	103.2%	105.3%	97.2%	91.0%	96.2%	94.8%						100.1%
Integra 8420									101.1%	98.6%	97.8%	99.2%						
L455HD													99.1%	100.6%		99.9%		
LegenDairy 5.0					105.1%	100.8%	98.3%	101.2%										
MasterPiece II					109.3%	101.9%	96.5%	102.1%	101.2%	100.3%	104.7%	102.1%						102.1%
McSunstra 810	97.5%	98.0%	94.6%	96.4%														
Nimbus													104.6%	103.1%		103.8%		
PGI 557					109.2%	102.2%	103.2%	104.5%										
Rebound 6.0	93.6%	88.8%	97.4%	93.6%	103.8%	100.9%	101.6%	102.0%	102.6%	100.2%	98.0%	100.3%					97.8%	101.2%
Vernal													84.9%	83.2%		83.9%		
Vernema													94.9%	93.3%		94.0%		
Whitney									101.5%	94.3%	100.8%	98.9%						
Winchester	93.6%	100.0%	95.1%	96.7%														
WL 363HQ	108.5%	102.2%	100.9%	102.7%														
WL354HQ					107.2%	107.1%	107.1%	107.1%	97.9%	99.8%	102.1%	99.9%						103.5%
AV-T/AC	4.51	9.93	11.66	26.10	7.84	10.39	9.71	27.94	11.40	10.66	10.70	32.75	7.47	10.07		17.57		
LSD 10-11 (0.05) 12-13(0.10)	9.1%	7.6%	6.0%	4.8%	8.8%	9.0%	5.9%	4.9%	5.1%	5.6%	NS	NS	8.4%	6.9%		1.02		
CV(%)	6.5	5.9	4.1	3.3	6.2	6.3	8.3	6.9	4.3	4.8	4.8	4.3	7.0	4.9		4.9		

**Table 3. Fall Dormancy & Pest Resistance Ratings for Alfalfa Varieties in these Trials\***

Variety	Marketing	FD	WS	BW	VW	FW	AN	PRR	APH1	SAA	PA	BAA	SN	SRKN	NRKN	Salt	Tech.
55Q27	Pioneer	5		HR	HR	HR	HR	HR	HR	R	R		HR				C
55VR05	Pioneer	5		HR	HR	HR	HR	HR	HR	R	R		HR		HR		R
6401N	NEXGROW	4		HR	HR	HR	HR	HR	R	R	HR		HR		HR	G	C
6422Q	NEXGROW	4	1	HR	HR	HR	HR	HR	HR		R		R				C
6516R	NEXGROW	5		HR		HR	HR	HR	HR	HR	HR		HR		HR	G	R
6547R	NEXGROW	5		HR	R	HR	HR	HR	HR		R		HR		HR	G/F	R
6585Q	NEXGROW	5	2	HR	HR	HR	HR	HR	HR		R		HR				C
AmeriStand 407TQ	America's Alf.	4	2	HR	HR	HR	HR	HR	HR	R	HR		HR		R		C
AmeriStand 415NT RR	America's Alf.	4		HR	HR	HR	HR	HR	HR		HR		HR		HR	G	R
AmeriStand 427TQ	America's Alf.	4	1	HR	HR	HR	HR	HR	HR		R		HR			G	C
AmeriStand 445NT	America's Alf.	4	2	HR	R	HR	HR	HR	R	HR	R		HR		HR		C
AmeriStand 455TQ RR	America's Alf.	4	2	HR	HR	HR	HR	HR	HR		R		R		HR	G	R
Archer III	America's Alf.	5	2	HR	HR	HR	HR	HR	HR		HR		HR		HR		C
Camas	Eureka	4		HR	R	HR	HR	HR	HR	HR	R		HR		HR		C
DG 4210	CPS	4	1	HR	HR	HR	HR	HR	HR	HR	R		R				C
DKA34-17RR	DeKalb	3	2	HR	HR	HR	HR	HR	HR		HR		R		R		R
DKA40-51RR	DeKalb	4	1	HR	HR	HR	HR	HR	HR	R			R				R
DKA41-18RR	DeKalb	4	2	HR	HR	HR	HR	HR	HR	HR	HR		R		R		R
DKA43-13	DeKalb	4	1	HR	HR	HR	HR	HR	HR		R		R		R		C
DKA43-22RR	DeKalb	4	2	HR	HR	HR	HR	HR	HR				HR		R		R
DKA44-16	DeKalb	4	2	HR	HR	HR	HR	HR	HR	R	R		R			G	R
DKA50-18	DeKalb	5	2	HR	HR	HR	HR	HR	HR	R	R		R				C
FSG 403LR	Allied	4		HR	HR	R	HR	HR	HR	R	R		R				C
FSG 423ST	Allied	4	2	HR	HR	HR	R	HR	R		R		R	R	HR	G/F	C
FSG 524	Allied	5	1	HR	HR	HR	HR	HR	HR		R		R				C
GrandStand	CPS	4	1	HR	HR	HR	HR	HR	HR	R	HR		MR		R		C
GUNNER	Croplan	5	1	HR	HR	HR	HR	HR	HR		R		R		HR		C
Hi-Gest 360	Alforex	3		HR	HR	HR	HR	HR	HR			R					C
Hi-Gest 660	Alforex	6		R	MR	HR	HR	R				R					C
HybriForce-2400	Dairyland	4	2	HR	HR	HR	HR	HR	HR		R		HR	R	HR	F	H
HybriForce-2600	Dairyland	6	2	HR	R	HR	HR	HR	R		R		HR	R	HR		H
HybriForce-3400	Dairyland	4	2	HR	HR	HR	HR	HR	HR		R		HR	R	HR		H
Integra 8420	Wilbur-Ellis	4		HR	HR	HR	HR	HR	HR	HR	R		HR		HR		C
Integra 8444R	Wilbur-Ellis	4		R	HR	HR	HR	HR	R	HR			HR		R	G/F	R
LegenDairy 5.0	CropPlan	3	1	HR	HR	HR	HR	HR	HR	R	R		MR		R		C
Magna 551	Dairyland	5	2	HR	HR	HR	R	HR	HR				R		HR		C
Magnitude	Allied	4	2	HR	HR	HR	HR	HR	HR	R	R		HR			G	C
Magnum 7	Dairyland	4	2	HR	HR	HR	HR	HR	HR		R		HR	R	HR		C
MasterPiece II	J.R. Simplot	5		HR	HR	HR	HR	HR	HR		HR		HR		R		C
Mutiny	NEXGROW	4	2	HR	HR	HR	HR	HR	HR				HR		R		R
Nimbus	Croplan	5		HR	R	HR	HR	HR	HR		HR		HR		HR	F	C
PGI 424	Alforex	4	2	HR	HR	HR	HR	HR	R		R		HR		R		C
PGI 557	Alforex	5	2	HR	HR	HR	HR	HR	HR		R	R	HR		HR		C
Rebound 6.0	Croplan	4	1	HR	HR	HR	HR	HR	HR	HR	R		R				C
RR AphaTron 2XT	Croplan	4	2	HR	HR	HR	HR	HR	HR		R		R				R
RR NemaStar	Croplan	5		HR	HR	HR	HR	HR	HR	R	R		HR		R	G	R
RR Tonnica	Croplan	5	2	HR	HR	HR	HR	HR	HR		R		R			G	R
RR501	Monsanto	5	2	HR		HR	HR	HR	HR		HR		HR			G/F	R
RRALF 4R200	Eureka	4	2	HR	HR	HR	HR	HR	HR	MR			HR		R		R
Seneca	CPS	4	2	HR	HR	HR	HR	HR	HR		R		MR		R		C
SGS 47M	J.R. Simplot	4	2	HR	HR	HR	HR	HR	HR		R		R				C
Vernal	Public	2		R	S	MR	S	S	S				SN		MR		C
Vernema	Public	4		MR	MR		LR	LR		MR			HR				C
Whitney	Eureka Seeds, Inc.	4	3	HR	HR	HR	HR	HR		R	HR		HR		HR		C
WL 354HQ	W-L Research	4	1	HR	HR	HR	HR	HR	HR	HR	HR		R				C
WL 356HQ.RR	W-L Research	4	1	HR	HR	HR	HR	HR	HR	MR	R		HR			G	R
WL 363HQ	W-L Research	5	1	HR	HR	HR	HR	HR	HR		HR		HR		HR		C
WL 372HQ.RR	W-L Research	5	2	HR	HR	HR	HR	HR	HR	R	R		HR				R
Variety	Marketing	FD	WS	BW	VW	FW	AN	PRR	APH1	SAA	PA	BAA	SN	SRKN	NRKN	Salt	Tech.

FD Fall Dormancy  
WS Winter Survival  
BW Bacterial Wilt  
VW Verticillium Wilt

FW Fusarium Wilt  
AN Anthracnose Race 1  
PRR Phytophthora Root Rot

SAA Spotted Alfalfa Aphid  
PA Pea Aphid  
BAA Blue Alfalfa Aphid  
SN Stem Nematode

APH<sup>1</sup> Aphanomyces Race 1  
SRKN Southern Root Knot Nematode  
NRKN Northern Root Knot Nematode

\* NAFA's "Winter Survival, Fall Dormancy & Pest Resistance Ratings for Alfalfa Varieties - 2015 Edition and previous editions". "For a complete copy of the NAFA document visit [www.alfalfa.org/varietyLeaflet.php](http://www.alfalfa.org/varietyLeaflet.php)." Blanks mean adequate testing has not yet occurred. Only data from publications were used.

**Table 4. Three-Year Forage Yield - 2012 Alfalfa Variety Trial, Othello, Adams County, WA**

Planted August 24, 2012		Fall	2013		2014		2015 Harvests						3 Yr. Total		Stand
Company	Entry	Dorm. Rating	Total tons/a	% of Mean	Total tons/a	% of Mean	3-Jun Cut 1	30-Jun Cut 2	12-Aug Cut 3	16-Sep Cut 4	Total tons/a	% of Mean	Total tons/a	% of Mean	21-Sep-15 %
Pioneer Hi Bred	55Q27	5	12.35	106.5%	11.12	108.4%	4.10	2.87	2.34	1.42	10.73	110.7%	34.20	108.4%	85.8
Crop Production	DG 4210	4	12.26	105.7%	11.36	110.7%	3.82	2.89	2.40	1.44	10.55	108.8%	34.17	108.3%	83.1
Dairyland Seed Co.	Magnum 7	4	12.93	111.5%	10.60	103.4%	3.54	2.64	2.46	1.37	10.02	103.3%	33.55	106.3%	88.2
Monsanto	DKA 50-18	5	11.56	99.7%	10.78	105.2%	3.81	2.82	2.41	1.51	10.56	108.9%	32.91	104.3%	83.3
Monsanto	DKA 43-13	4	11.78	101.6%	10.82	105.5%	3.80	2.81	2.21	1.39	10.21	105.3%	32.81	104.0%	81.8
JR Simplot Co.	MasterPiece II	4	12.15	104.7%	10.56	103.0%	3.60	2.66	2.40	1.40	10.05	103.6%	32.76	103.8%	84.3
Forage Genetics	FGI 48W203*	4	11.01	95.0%	11.10	108.2%	3.66	2.85	2.29	1.45	10.26	105.8%	32.37	102.6%	85.2
Crop Production	Seneca	4	11.69	100.8%	10.52	102.6%	3.34	2.63	2.36	1.38	9.71	100.1%	31.92	101.2%	90.6
Eureka	Whitney	4	11.75	101.4%	10.00	97.6%	3.51	2.62	2.36	1.44	9.92	102.3%	31.68	100.4%	84.0
Precision Genetics	CB11001*	4	11.64	100.4%	10.11	98.6%	3.59	2.48	2.15	1.32	9.53	98.3%	31.28	99.2%	85.4
Producers Choice	CW 104038*	4	11.39	98.2%	9.85	96.1%	3.43	2.44	2.16	1.13	9.17	94.5%	30.41	96.4%	80.4
Precision Genetics	CB001*	4	11.21	96.7%	9.66	94.2%	3.44	2.53	2.20	1.32	9.49	97.9%	30.36	96.2%	83.0
Precision Genetics	CB11011*	4	11.39	98.2%	9.75	95.1%	3.32	2.42	1.86	0.79	8.39	86.5%	29.54	93.6%	74.5
WA Seed Certif.	Vernema	4	11.33	97.7%	9.12	89.0%	3.51	2.17	2.01	1.09	8.78	90.6%	29.23	92.7%	76.1
WA Seed Certif.	Vernal	2	9.50	81.9%	8.47	82.6%	3.19	2.09	1.93	0.85	8.06	83.1%	26.03	82.5%	72.1
	<b>Mean</b>	<b>4.0</b>	<b>11.60</b>	<b>100.0%</b>	<b>10.26</b>	<b>100.0%</b>	<b>3.58</b>	<b>2.60</b>	<b>2.24</b>	<b>1.29</b>	<b>9.70</b>	<b>100.0%</b>	<b>31.55</b>	<b>100.0%</b>	<b>82.5</b>
	<b>CV %</b>		<b>6.3</b>	<b>6.3</b>	<b>4.7</b>	<b>4.7</b>	<b>11.2</b>	<b>5.7</b>	<b>6.9</b>	<b>10.4</b>	<b>6.1</b>	<b>6.1</b>	<b>4.7</b>	<b>4.7</b>	<b>4.9</b>
	<b>LSD 10%</b>		<b>0.87</b>	<b>7.5%</b>	<b>0.58</b>	<b>5.7%</b>	<b>NS</b>	<b>0.18</b>	<b>0.18</b>	<b>0.16</b>	<b>0.71</b>	<b>7.3%</b>	<b>1.77</b>	<b>5.6%</b>	<b>4.8</b>

\* Entered as an experimental.

**Table 5. Three-Year Forage Yield - Fall 2012 Planting in 2015, Pasco, Franklin County, WA**  
**Forage Yield (Ton DM/A)**

Planted August 24, 2012		Fall	2013		2014		2014 Harvests						3 Yr. Total		Percent
Company	Entry	Dorm.	Total	% Mean	Total	% Mean	5-28	6-29	8-10	9-15	Total	% Mean	Total	% Mean	Stand on
		Rating	Total	% Mean	Total	% Mean	Cut 1	Cut 2	Cut 3	Cut 4	Total	% Mean	Tons/A	% Mean	9-24-15
Precision Genetics	CB11001*	4	12.09	106.1%	10.56	99.1%	3.64	2.89	2.64	1.97	11.13	104.1%	33.78	103.1%	86
Forage Genetics	FG 48W203*	4	11.82	103.7%	10.99	103.1%	3.58	2.65	2.64	1.94	10.81	101.1%	33.63	102.7%	88
JR Simplot Co.	MasterPiece II	4	11.54	101.2%	10.69	100.3%	3.52	2.92	2.75	2.01	11.20	104.7%	33.43	102.1%	85
America's Alfalfa	AmeriStand 445NT	4	11.49	100.8%	10.76	101.0%	3.82	2.73	2.60	1.89	11.04	103.2%	33.30	101.7%	84
Producer's Choice	CW 085028*	5	11.34	99.5%	11.45	107.4%	3.58	2.75	2.34	1.78	10.45	97.7%	33.24	101.5%	87
Pioneer Hi Bred	55Q27	5	11.33	99.4%	11.18	104.9%	3.37	2.91	2.45	1.93	10.67	99.7%	33.17	101.3%	86
NEXGROW	6401N	4	11.43	100.3%	10.81	101.4%	3.66	2.74	2.44	2.05	10.88	101.8%	33.13	101.1%	88
Croplan Genetics	Rebound 6.0	4	11.69	102.6%	10.68	100.2%	3.40	2.72	2.53	1.83	10.48	98.0%	32.86	100.3%	85
W-L Research	WL 354HQ	4	11.16	97.9%	10.64	99.8%	3.58	2.80	2.62	1.92	10.92	102.1%	32.71	99.9%	88
Precision Genetics	CB9003*	4	10.95	96.1%	10.70	100.4%	3.37	3.07	2.64	1.94	11.02	103.0%	32.66	99.7%	88
Crop Protection	DG 4210	4	11.77	103.2%	10.57	99.2%	2.99	2.80	2.56	1.95	10.30	96.3%	32.64	99.7%	88
Monsanto	DKA 50-18	5	11.57	101.5%	10.67	100.1%	3.11	2.84	2.49	1.93	10.37	96.9%	32.61	99.6%	85
Wilbur-Ellis Co.	Integra 8420	4	11.52	101.1%	10.51	98.6%	3.43	2.63	2.44	1.96	10.46	97.8%	32.49	99.2%	83
Monsanto	DKA 43-13	4	11.35	99.6%	10.61	99.5%	3.21	2.86	2.46	1.94	10.47	97.9%	32.42	99.0%	87
Eureka	Whitney	4	11.57	101.5%	10.05	94.3%	3.26	2.90	2.68	1.94	10.78	100.8%	32.40	98.9%	86
Precision Genetics	CB11011*	4	10.47	91.8%	10.50	98.5%	3.78	3.04	2.51	1.79	11.12	104.0%	32.08	98.0%	85
Croplan Genetics	Gunner	5	11.00	96.5%	10.78	101.2%	3.08	2.70	2.50	1.85	10.13	94.7%	31.91	97.4%	86
Dairyland Seed Co.	HybriForce-2600	6	11.07	97.2%	9.70	91.0%	3.49	2.57	2.43	1.80	10.29	96.2%	31.06	94.8%	83
	<b>Mean</b>	<b>4.3</b>	<b>11.40</b>	<b>100.0%</b>	<b>10.66</b>	<b>100.0%</b>	<b>3.44</b>	<b>2.81</b>	<b>2.54</b>	<b>1.91</b>	<b>10.70</b>	<b>100.0%</b>	<b>32.75</b>	<b>100.0%</b>	<b>86</b>
	<b>CV %</b>		<b>4.3</b>	<b>4.3</b>	<b>4.80</b>	<b>4.8</b>	<b>12.0</b>	<b>6.2</b>	<b>7.7</b>	<b>9.0</b>	<b>6.6</b>	<b>4.8</b>	<b>4.3</b>	<b>4.3</b>	<b>5.2</b>
	<b>LSD 10%</b>		<b>0.58</b>	<b>5.1%</b>	<b>0.60</b>	<b>5.6%</b>	<b>NS</b>	<b>0.21</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>

\* Entered as an experimental.





**Table 7. Two-Year Forage Yield - 2013 Alfalfa Variety Trial, Othello, Adams County, WA**

Planted August 9, 2013		Fall	2014		2015 Harvests						Total of		2015 Fall
Company	Entry	Dorm.	Harvests		3-Jun	30-Jun	12-Aug	16-Sep	Total	% Mean	2014 and 2015		5-Oct
		Rating	Total	% Mean	Cut 1	Cut 2	Cut 3	Cut 4	Total		Total	% Mean	Regrowth
Dairyland Seed	DSD01-T*	4	13.29	110.4%	3.89	2.66	2.54	1.38	10.48	111.2%	23.77	110.8%	3.50
Nexgrow	6585Q	5	12.71	105.6%	3.35	2.79	2.48	1.28	9.89	104.9%	22.59	105.3%	5.00
Allied Seed LLC	FSG403LR*	4	12.36	102.7%	3.97	2.58	2.23	1.28	10.06	106.8%	22.42	104.5%	2.75
Dairyland Seed	DSD06-M*	4	12.60	104.7%	3.69	2.60	2.28	1.14	9.71	103.0%	22.31	104.0%	3.00
Crop Protection Services	DG 4210	4	12.47	103.6%	3.42	2.69	2.17	1.20	9.49	100.7%	21.96	102.3%	3.75
Croplan Genetics	Nimbus	5	12.21	101.4%	3.21	2.80	2.45	1.28	9.74	103.3%	21.94	102.3%	5.00
Precision Seeds	12005*	4	12.65	105.1%	3.50	2.49	2.09	1.03	9.11	96.7%	21.76	101.4%	2.75
America's Alfalfa	AmeriStand 445NT	4	11.86	98.5%	3.47	2.68	2.32	1.30	9.77	103.7%	21.62	100.8%	4.75
America's Alfalfa	AmeriStand 427TQ	4	11.84	98.4%	3.45	2.66	2.24	1.22	9.57	101.6%	21.41	99.8%	4.25
WA Seed Certif.	Vernema	4	11.92	99.1%	3.68	2.36	2.13	1.19	9.36	99.4%	21.29	99.2%	2.25
Allied Seed LLC	FSG423ST*	4	11.90	98.9%	3.58	2.43	2.12	1.07	9.21	97.7%	21.11	98.4%	2.75
Crop Protection Services	GrandStand	4	11.64	96.7%	3.43	2.52	2.20	1.11	9.27	98.4%	20.91	97.4%	3.25
Allied Seed LLC	FSG424*	4	11.66	96.9%	3.15	2.67	2.23	1.14	9.19	97.5%	20.85	97.1%	4.50
Eureka Seeds	Camas	4	11.56	96.0%	3.02	2.54	2.17	1.15	8.88	94.2%	20.43	95.2%	5.00
WA Seed Certif.	Vernal	2	9.87	82.0%	3.32	1.85	1.73	0.73	7.63	81.0%	17.50	81.5%	1.00
	<b>Mean</b>	<b>4.0</b>	<b>12.03</b>	<b>100.0%</b>	<b>3.48</b>	<b>2.55</b>	<b>2.23</b>	<b>1.17</b>	<b>9.42</b>	<b>100.0%</b>	<b>21.46</b>	<b>100.0%</b>	<b>3.57</b>
	<b>CV %</b>		<b>5.3</b>	<b>5.3</b>	<b>9.9</b>	<b>4.9</b>	<b>7.8</b>	<b>11.1</b>	<b>6.9</b>	<b>6.9</b>	<b>5.6</b>	<b>5.6</b>	<b>12.3</b>
	<b>LSD 10%</b>		<b>0.76</b>	<b>6.3%</b>	<b>0.41</b>	<b>0.15</b>	<b>0.21</b>	<b>0.15</b>	<b>0.77</b>	<b>8.2%</b>	<b>1.42</b>	<b>6.6%</b>	<b>0.52</b>

\* Entered as Experimentals

**Table 8. Two-Year Forage Yield - 2013 Conventional Alfalfa Variety Trial, Pasco, Franklin County, WA**

Planted August 15, 2013

Company	Entry	Fall	2014**		2015 Harvests						2 Year Totals		Regrowth
		Dorm.	Harvests		28-May	30-Jun	10-Aug	16-Sep	Total		2013 & 2015		Rating
		Rating	Total	% Mean	Cut 1	Cut 2	Cut 3	Cut 4	Tons/a	% Mean	Tons/a	% Mean	6-Oct-15
Allied Seed LLC	FSG524	5	7.86	104.8%	3.36	2.70	2.89	1.91	10.86	107.8%	18.72	106.6%	5.00
America's Alfalfa	AmeriStand 445NT	4	7.95	105.9%	3.60	2.66	2.64	1.79	10.69	106.1%	18.63	106.0%	4.50
Eureka Seeds	Camas	4	7.78	103.7%	3.64	2.64	2.61	1.76	10.64	105.6%	18.42	104.8%	4.75
Precision Seeds	12005*	4	7.54	100.5%	3.73	2.76	2.65	1.69	10.83	107.5%	18.37	104.5%	4.25
Croplan Genetics	Nimbus	5	7.85	104.6%	3.47	2.50	2.62	1.79	10.39	103.1%	18.24	103.8%	5.00
Nexgrow	6585Q	5	7.67	102.3%	3.10	2.44	2.81	1.82	10.16	100.8%	17.83	101.5%	5.00
Crop Protection Services	DG 4210	4	7.95	105.9%	3.33	2.25	2.54	1.62	9.74	96.7%	17.69	100.6%	3.75
Crop Protection Services	GrandStand	4	7.54	100.6%	3.41	2.52	2.54	1.63	10.10	100.3%	17.64	100.4%	3.25
Legacy Seeds	L-455HD	4	7.43	99.1%	3.45	2.46	2.50	1.72	10.13	100.6%	17.56	99.9%	3.50
America's Alfalfa	AmeriStand 427TQ	4	6.96	92.8%	3.00	2.54	2.49	1.53	9.56	94.9%	16.52	94.0%	3.75
Public	Vernema	4	7.12	94.9%	3.31	2.13	2.40	1.56	9.40	93.3%	16.52	94.0%	2.50
Public	Vernal	2	6.37	84.9%	3.19	1.82	2.11	1.26	8.38	83.2%	14.75	83.9%	1.00
	<b>Mean</b>	<b>4.1</b>	<b>7.47</b>	<b>100.0%</b>	<b>3.38</b>	<b>2.45</b>	<b>2.57</b>	<b>1.67</b>	<b>10.07</b>	<b>100.0%</b>	<b>17.57</b>	<b>100.0%</b>	<b>3.85</b>
	<b>CV %</b>		<b>7.0</b>	<b>7.0</b>	<b>6.3</b>	<b>8.9</b>	<b>7.3</b>	<b>7.4</b>	<b>4.9</b>	<b>4.9</b>	<b>4.9</b>	<b>4.9</b>	<b>11.5</b>
	<b>LSD 10%</b>		<b>0.63</b>	<b>8.4%</b>	<b>0.26</b>	<b>0.26</b>	<b>0.23</b>	<b>0.15</b>	<b>0.60</b>	<b>6.0%</b>	<b>1.02</b>	<b>5.8%</b>	<b>0.50</b>

\* Entered as Experimentals

\*\* In 2014 conventional herbicide injury was significant as well as this year an irrigation problem occurred.

**Table 9. Two-Year Forage Yield - 2013 Roundup Ready Alfalfa Variety Trial, Pasco, Franklin County, WA**

Planted August 15, 2013

		2014			2015 Harvests						2 Year Totals		Regrowth
		Dorm.	Harvests		28-May	30-Jun	11-Aug	16-Sep	Total		2014 & 2015		Rating
Company	Entry	Rating	Tons/a	% Mean	Cut 1	Cut 2	Cut 3	Cut 4	Tons/a	% Mean	Tons/a	% Mean	6-Oct-15
Eureka Seeds	4R200	4	9.44	101.7%	3.37	3.03	2.51	1.86	10.77	103.8%	20.20	102.8%	5.0
Monsanto	DKA43-22RR	4	9.47	102.1%	3.23	2.97	2.39	1.87	10.46	100.9%	19.93	101.4%	5.0
Allied Seed LLC	428RR	4	9.33	100.6%	3.22	3.13	2.30	1.87	10.52	101.4%	19.85	101.0%	5.0
Monsanto	DKA41-18RR	4	9.19	99.1%	3.36	2.92	2.38	1.71	10.37	99.9%	19.56	99.5%	4.3
Monsanto	DKA44-16RR	4	9.35	100.7%	3.11	2.99	2.42	1.65	10.17	98.0%	19.52	99.3%	5.0
Forage Genetics	FG R49A132*	4	8.89	95.8%	3.39	2.86	2.17	1.55	9.96	96.0%	18.86	95.9%	4.0
<b>Mean</b>			<b>9.28</b>	<b>100.0%</b>	<b>3.28</b>	<b>2.98</b>	<b>2.36</b>	<b>1.75</b>	<b>10.38</b>	<b>100.0%</b>	<b>19.65</b>	<b>100.0%</b>	<b>4.7</b>
<b>CV %</b>			<b>3.3</b>	<b>3.3</b>	<b>8.2</b>	<b>7.0</b>	<b>7.6</b>	<b>6.2</b>	<b>4.9</b>	<b>4.9</b>	<b>3.7</b>	<b>3.7</b>	<b>7.7</b>
<b>LSD 10%</b>			<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0.14</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0.4</b>

\* Entered as Experimental

**Table 10. One-Year Forage Yield - 2014 Alfalfa Variety Trial, Othello, Adams County, WA**

Planted August 13, 2014		Fall	2015 Harvests						2015 Fall
		Dorm. Rating	29-May Cut 1	1-Jul Cut 2	12-Aug Cut 3	21-Sep Cut 4	Total Tons/a	Total % Mean	Oct. 5 Regrowth
Allied	FSG 415BR	4	3.97	3.06	2.70	1.75	11.48	106.7%	3.0
Simplot Grower Solutions	SGS 47M	4	3.52	3.16	2.88	1.75	11.31	105.1%	3.5
Precision Genetics	CB11007*	4	3.78	3.03	2.57	1.71	11.09	103.0%	3.3
W-L	WL354HQ	4	3.50	3.06	2.73	1.75	11.03	102.5%	4.0
S & W Seed Company	SW 4328	4	3.82	2.95	2.55	1.69	11.01	102.3%	2.8
Precision Genetics	CB11009*	4	3.77	3.14	2.49	1.57	10.97	101.9%	3.0
Pioneer Hi-Bred	55Q27	5	3.52	2.96	2.70	1.78	10.97	101.9%	3.8
S & W Seed Company	SW 4332*	4	3.89	2.91	2.54	1.60	10.93	101.5%	2.8
Crop Production Services	FG 48W214*	4	3.65	2.83	2.66	1.71	10.85	100.8%	4.3
Eureka Seeds	Camas	4	3.46	2.86	2.75	1.74	10.81	100.4%	5.0
Allied	Magnitude	4	3.27	3.04	2.77	1.64	10.71	99.5%	3.8
Alforex	Hi-Gest 360	3	3.48	2.88	2.71	1.60	10.68	99.2%	3.0
America's Alfalfa	AmeriStand 427TQ	4	3.35	2.92	2.65	1.63	10.55	98.0%	4.3
Vernema	Vernema	4	3.85	2.53	2.24	1.53	10.15	94.3%	2.3
Vernal	Vernal	2	3.52	2.26	1.90	1.24	8.92	82.9%	1.3
<b>Mean</b>			<b>3.62</b>	<b>2.91</b>	<b>2.59</b>	<b>1.64</b>	<b>10.77</b>	<b>100.0%</b>	<b>3.3</b>
<b>CV %</b>			<b>7.9</b>	<b>5.7</b>	<b>4.7</b>	<b>6.5</b>	<b>4.3</b>	<b>4.3</b>	<b>12.9</b>
<b>LSD 10%</b>			<b>0.34</b>	<b>0.19</b>	<b>0.14</b>	<b>0.13</b>	<b>0.56</b>	<b>5.2%</b>	<b>0.5</b>

\* Entered as Experimentals

**Table 11. One-Year Forage Yield - 2014 Conventional Alfalfa Variety Trial, Pasco, Franklin County, WA**

Planted August 21, 2014		Fall	2014 Harvests						Regrowth
Company	Entry	Dorm.	26-May	29-Jun	10-Aug	16-Sep	Total	% Mean	Rating
		Rating	Cut 1	Cut 2	Cut 3	Cut 4	Total		6-Oct-15
Pioneer Hi-Bred	55Q27	5	3.45	3.01	3.08	1.87	11.41	106.1%	4.50
Precision Genetics	CB11007*	4	3.37	3.08	2.95	1.93	11.33	105.3%	4.25
Pioneer Hi-Bred	55VR05**	5	3.65	2.91	2.86	1.83	11.26	104.6%	4.50
Crop Production Services	FG 48W214*	4	3.31	2.93	3.12	1.88	11.24	104.5%	5.00
Eureka Seeds	Camas	4	3.31	2.81	3.07	1.92	11.12	103.4%	5.00
Vernema	Vernema	4	3.65	2.79	2.77	1.84	11.06	102.8%	3.00
S & W Seed Company	SW4332*	4	3.42	2.93	2.90	1.78	11.03	102.6%	3.25
S & W Seed Company	SW4328	4	3.48	2.76	2.84	1.73	10.81	100.5%	3.50
America's Alfalfa	AmeriStand 427TQ	4	3.20	2.91	2.87	1.76	10.74	99.9%	4.25
Simplot Grower Solutions	47M314	4	3.09	2.81	2.94	1.76	10.60	98.5%	4.50
Precision Genetics	CB11001*	4	3.39	2.70	2.70	1.77	10.55	98.1%	4.75
RR Check	Check	4	3.33	2.80	2.57	1.74	10.43	97.0%	4.25
Alforex	Hi-Gest 660	6	3.00	2.61	2.72	1.77	10.10	93.9%	5.00
Vernal	Vernal	2	3.37	2.12	2.14	1.29	8.91	82.8%	1.00
	<b>Mean</b>		<b>3.36</b>	<b>2.80</b>	<b>2.82</b>	<b>1.78</b>	<b>10.76</b>	<b>100.0%</b>	<b>4.05</b>
	<b>CV %</b>		<b>13.5</b>	<b>6.5</b>	<b>6.8</b>	<b>5.3</b>	<b>6.3</b>	<b>6.3</b>	<b>12.8</b>
	<b>LSD 10%</b>		<b>NS</b>	<b>0.22</b>	<b>0.23</b>	<b>0.11</b>	<b>0.81</b>	<b>7.5%</b>	<b>0.62</b>

\* Entered as Experimentals

\*\* RR variety mistakingly planted in conventional trial

