

2009

2009 Texas Oat Variety Results



Dept. of Soil & Crop Sciences

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2009

Texas Oat Variety Trials

<http://varietytesting.tamu.edu>

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Texas Small Grains Regional Map

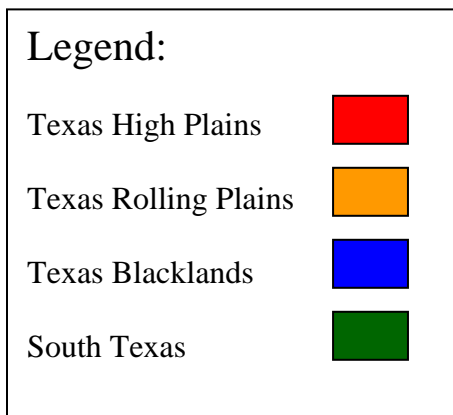
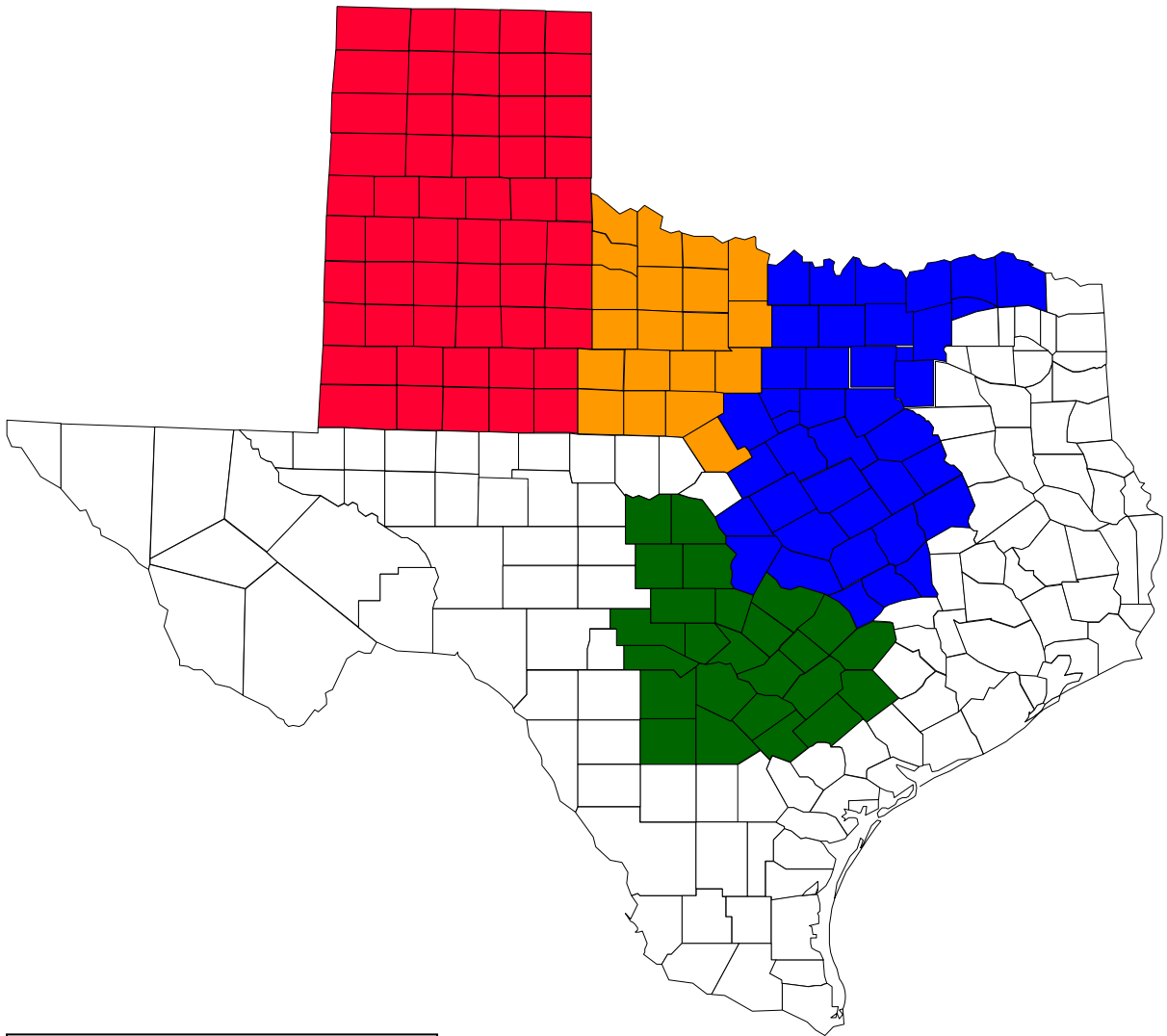


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Introduction

Texas producers planted 600,000 acres in oats for the 2008-2009 cropping season according to the National Agricultural Statistics Service. This figure is down about 100 thousand acres from the 2007-2008 growing season. The majority of the oats acres were planted in the Texas Blacklands (about 300,000 acres) followed by the South Texas region with an estimated 200,000 acres. The Texas Rolling Plains planted roughly 25,000 acres and only Parmer county in the High Plains reported having about 1,500 acres of oats grown.

The Uniform Oat Variety Trial (UOVT) is coordinated and implemented by numerous Texas AgriLife Extension and Research faculty and staff from Commerce and College Station. We also appreciate the cooperation from numerous County Extension Agents and producers that aid us with locations and property to conduct these field trials. The purpose of this publication is to provide unbiased yield and disease data for oat producers across the state. With this information, Texas oat producers can make a more educated decision about the most appropriate varieties for their geographic region.

Variety Selection:

Selecting the proper oat varieties is one of the most important decisions a producer will make. This decision has an impact on the potential yield (forage and grain), seed quality (test weight and protein), disease and insect management, and maturity of the crop. It is important that producers diversify the varieties to be planted on their farms. Variety diversification spreads the risk associated with potentially devastating pests (diseases, insects, etc.) and yield loss from adverse environmental factors (drought, hail, wildlife etc.).

Producers should select no fewer than 2 varieties to plant on their farms and preferably more. Variety selection should be based on a combination of sound data from university trials, county agent strip trials, and other reliable sources. Oat varieties should be chosen based on multiple years of data (yield, pest package, test weight, and maturity). High yields over multiple years and multiple locations equates to a variety's ability to perform well over diverse environmental factors. Stable yield performance is the best variety selection tool. One thing to be mindful of is decreasing yields over a 2 or 3 year time frame, which may reflect a change in disease and/or insect resistance.

When selecting a variety for 2009-10 season, producers need to consider the 2008-09 season and recognize the numerous abnormalities that occurred in the weather. It is strongly encouraged that producers look at the 2 and 3 year averages when available for the varieties and to look at numerous relevant variety trial locations.

Interpreting the Data:

Each location has been statistically analyzed using the recommended procedures. The statistical analysis provides the mean, percent coefficient of variation (CV), and LSD values. Without considering these statistics, you may be mis-interpreting the yield data.

The mean is another term for the average. So, the mean value is the average of all the variety yields within the trial. The percent CV value indicates the level of unexplained variability present within the trial. A high CV value indicates a lot of variability existed within the trial. This variability may be the result of non-uniform stands, non-uniform insect or disease pressure, variability in harvesting, or other issues. When CV values exceed 15% the validity of the data becomes questionable and the usefulness decreases. The LSD value indicates if the varieties performed differently from one another within the trial. If the LSD value is 5 bu/a and the Variety A yield 36 bu/a and Variety B yielded 30 bu/a, then Variety A is significantly better. The LSD value at a 0.05 (or 5%) level indicates that Variety A would yield better than Variety B in 19 out of 20 trials conducted under the same conditions.



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2009 Texas Oat Overview by Region

Texas Blacklands:

The Texas Blackland region endured drought conditions from September 2008 to March 2009. Additionally, spring freezes on both March 26 and April 6, 2009 may have impacted yields also. However, oats are more tolerant to spring freezes than wheat.

South Texas:

The South Texas locations also experienced an abnormally dry winter which led to reduced stand establishments and therefore lower than expected yields. The variety trial at Castroville was the only irrigated location in this region of Texas and water was not a yield limiting factor.

Texas Blackland Location Issues

Location ¹	Planting Date	Fertilizer (Total) (lbN/a)	Row Spacing inch	Pesticide Applied	Date Appl.	Yield Limiting Issues
Clarksville	10/12/08	50	7	-	-	Severe Drought and Lodging – Not Harvested
Ellis County	10/14/08	95	7	-	-	Severe Drought and Lodging – Not Harvested
Hunt County	10/15/09	65	7	-	-	Severe Drought – Not Harvested
McGregor	11/6/08	80	6	Weedmaster (1 pt/a) Dimethoiate (3/4 pt/a)	1/30/09 2/19/09	Timely Rains, Light Disease, Some Shattering

¹None of these locations were irrigated and all were grown under conventional till.

McGregor Uniform Oat Variety Trial Yield - 2009

2009 Rank	Variety	Source	Yield (bu/a)		Test Wt. (lb/bu)
			2009	2-Year [†]	2009
1	Horizon 270	UF	156.7	133.0	34.5
2	LA 99016	LSU	140.3	-	32.5
3	Plot Spike	LSU	138.0	117.9	32.0
4	Trophy	LSU	131.3	113.4	30.5
5	Dallas	TAMU	131.1	111.9	35.0
6	Horizon 321	UF	129.2	113.9	35.0
7	Harrison	LSU	126.5	104.5	37.0
8	Horizon 201	UF	126.5	-	33.0
9	TAMO 405	TAMU	119.5	111.5	33.5
10	TAMO 406	TAMU	114.0	111.1	31.5
11	TAMO 606	TAMU	112.5	96.3	36.0
12	Brooks	NCARS	109.0	-	31.5
13	HG 76-30	East Texas Seed	104.8	92.9	33.5

	Mean	126.1	110.6	33.5
	CV (%)	8.7		
	LSD (5%)	15.0		

[†]Yield average for 2009 and 2008

McGregor Uniform Oat Variety Trial Ratings - 2009

Variety	Source	Height (inches)	Heading (Day)
Brooks	NCARS	41	100
Dallas	TAMU	34	93
Harrison	LSU	40	96
HG 76-30	East Texas Seed	45	99
Horizon 201	UF	40	99
Horizon 270	UF	32	97
Horizon 321	UF	35	99
LA 99016	LSU	37	95
Plot Spike	LSU	38	106
TAMO 405	TAMU	32	90
TAMO 406	TAMU	33	105
TAMO 606	TAMU	35	97
Trophy	LSU	39	93

South Texas Location Issues

Location ¹	Planting Date	Fertilizer (Total) (lbN/a)	Water*	Row Spacing inch	Pesticide Applied	Date Appl.	Yield Limiting Issues
Brady	10/27/08	100	D	7.5	None	-	Severe Drought Late Emergence
Castroville	11/20/08	80	I F	7.5	Harmony Extra (0.05 lb/a) Dimethoate (3/4 pt/a)	2/7/09	Moderate Crown Rust and Stripe Rust; Extensive Bird Damage
College Station	11/17/08	75	D	6	Weedmaster (1 pt/a) + Harmony Extra (0.05 lb/a) Dimethoate (3/4 pt/a)	1/23/09	Some Lodging, Moderate Bird Damage

¹All locations were grown under conventional till.

*Irrigation/Type: IF = Irrigated Full, IL = Irrigated Limited, D = Dryland

Brady Uniform Oat Variety Trial Yield - 2009

2009 Rank	Variety	Source	Yield (bu/a)			Test Wt. (lb/bu)
			2009	2-Year [†]	3-Year [‡]	2009
1	Dallas	TAMU	109.1	106.2	94.2	28.0
2	LA 99016	LSU	106.5	-	-	31.0
3	Horizon 321	UF	104.2	97.3	94.3	30.5
4	TAMO 606	TAMU	99.9	92.8	97.0	31.0
5	Plot Spike	LSU	97.8	98.7	-	29.0
6	HG 76-30	East Texas Seed	96.2	101.6	-	31.0
7	Horizon 270	UF	93.8	96.2	103.3	28.0
8	TAMO 405	TAMU	92.2	98.7	91.8	30.0
9	Horizon 201	UF	89.3	-	-	27.5
10	TAMO 406	TAMU	88.3	96.4	99.9	29.5
11	Brooks	NCARS	86.3	-	-	27.0
12	Trophy	LSU	75.5	81.4	89.1	30.0
13	Harrison	LSU	74.1	76.3	71.6	30.5

Mean 93.3 94.6 92.6 29.5

CV (%) 16.9

[†]Yield average for 2009 and 2008

[‡]Yield average for 2009, 2008, and 2007

LSD (5%) 20.7

Castroville Uniform Oat Variety Trial Yield - 2009

2009 Rank	Variety	Source	Yield (bu/a)		Test Wt. (lb/bu)
			2009	2-Year [†]	2009
1	TAMO 606	TAMU	112.0	108.4	36.0
2	Plot Spike	LSU	100.4	92.2	32.5
3	TAMO 406	TAMU	99.0	93.4	29.0
4	Horizon 321	UF	98.2	101.9	32.0
5	Dallas	TAMU	93.4	78.7	30.0
6	Trophy	LSU	89.7	81.5	30.0
7	Horizon 201	UF	84.4	-	29.0
8	HG 76-30	East Texas Seed	78.0	69.6	33.5
9	Harrison	LSU	77.7	77.2	30.0
10	Horizon 270	UF	77.3	85.7	27.5
11	Brooks	NCARS	69.2	-	28.5
12	LA 99016	LSU	58.1	-	25.0
13	TAMO 405	TAMU	53.5	60.0	26.0

Mean	83.9	84.9	29.9
CV (%)	15.8		
LSD (5%)	16.8		

[†]Yield average for 2009 and 2008

Castroville Uniform Oat Variety Trial Ratings¹ - 2009

Variety	Source	Crown Rust*	Stem Rust*	Heading (Day)
Brooks	NCARS	S	MR	87
Dallas	TAMU	MS	S	86
Harrison	LSU	0	S	85
HG76-30	East Texas Seed	MS	MS	86
Horizon 201	UF	0	0	85
Horizon 270	UF	0	0	85
Horizon 321	UF	0	MS	86
LA 99016	LSU	0	MR	84
Plot Spike	LSU	0	MR	88
TAMO 405	TAMU	MR	MR	85
TAMO 406	TAMU	0	MR	86
TAMO 606	TAMU	0	MS	88
Trophy	LSU	0	MR	85

* Rust Ratings - 0= No Disease, R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible

¹Rust Ratings were taken at the onset of Crown Rust - some susceptible varieties did not show symptomology at time of rating.

College Station Uniform Oat Variety Trial Yield - 2009

2009 Rank	Variety	Source	Yield (bu/a)			Test Wt. (lb/bu)
			2009	2-Year [†]	3-Year [‡]	
1	Horizon 201	UF	144.9	-	-	29.0
2	LA 99016	LSU	143.4	-	-	31.5
3	TAMO 405	TAMU	134.3	124.6	121.7	32.0
4	Horizon 270	UF	130.8	126.6	123.7	29.5
5	Trophy	LSU	110.2	113.4	112.5	32.0
6	TAMO 406	TAMU	107.5	116.2	112.8	29.5
7	Horizon 321	UF	102.8	107.9	103.1	30.5
8	Dallas	TAMU	101.2	91.2	79.0	26.5
9	Harrison	LSU	98.5	106.4	99.0	30.0
10	TAMO 606	TAMU	94.6	97.4	97.4	29.0
11	Plot Spike	LSU	91.3	96.4	-	27.5
12	Brooks	NCARS	74.7	-	-	25.0
13	HG 76-30	East Texas Seed	70.8	80.6	-	30.5
Mean			108.1	106.1	106.1	29.4
CV (%)			13.8			
LSD (5%)			21.4			

[†]Yield average for 2009 and 2008
[‡]Yield average for 2009, 2008, and 2007

College Station Uniform Oat Variety Trial Ratings - 2009

Variety	Source	Crown Rust	Stem Rust	Lodging (%)	Height (inches)	Heading (Day)
Brooks	NCARS	S	MR	8	47	98
Dallas	TAMU	S	S	7	39	97
Harrison	LSU	MR	MS	4	42	98
HG76-30	East Texas Seed	MS	MS	9	46	98
Horizon 201	UF	R	MR	6	46	92
Horizon 270	UF	0	MS	6	36	92
Horizon 321	UF	MS	MS	6	40	95
LA 99016	LSU	MR	MS	3	45	91
Plot Spike	LSU	MR	MR	0	44	103
TAMO 405	TAMU	MR	MR	6	34	90
TAMO 406	TAMU	0	MR	4	41	96
TAMO 606	TAMU	MS	MS	1	40	102
Trophy	LSU	R	MS	7	42	94

* Rust Ratings - 0= No Disease, R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible

Oat Distributor Seed Source

We greatly appreciate the following distributors for their donation of seed for the county demonstration and variety research trials.

<u>Company</u>	<u>Seed Variety</u>
Douglass King Co. – San Antonio, TX	TAMO 405
Pogue Seed Co. – Kenedy, TX	TAMO 406
Justin Seed Co. – Justin, TX	TAMO 606
East TX Seed – Tyler, TX	Horizon 201 Horizon 314



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