

Cornell **CALS**

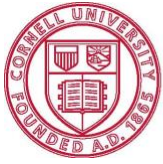
College of Agriculture
and Life Sciences

Cornell Cooperative Extension

2021 New York Hybrid Corn Grain Performance Trials



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Cornell University
Cooperative Extension

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TO: Persons interested in the grain yield performance of corn hybrids in New York

This report includes a summary of our 2021 commercial hybrid corn grain trials. It shows results from six locations in New York, divided into the following two maturity ranges:

	Base 50 Growing Degree Days	Relative Maturity
Early/Medium-early	1900-2300 GDD	75-95 Days
Medium	2300-2700 GDD	95-115 Days

This report is designed to aid seed company representatives, corn growers, and extension educators in evaluating hybrids for yield capacity, stalk and root strength, and maturity in various regions in New York. It also provides information for developing ratings for the [Cornell Guide for Integrated Field Crop Management](#).

While many hybrids included in this report are widely grown, others are new or experimental hybrids. In considering these tables, remember that this data represents only one year. Test results should be considered over several years before final conclusions are valid. Results gathered over several locations are a better guide than results at any one location.

We welcome comments or suggestions for improving this report for your use.

Sincerely yours,

A handwritten signature in blue ink that reads 'Margaret E. Smith'.

Margaret E. Smith
Extension Leader, Plant Breeding & Genetics

For information on entering hybrids in the 2022 trials, please contact Sherrie Norman at san9@cornell.edu or 607-255-1322 or Margaret Smith.

12/2021

Building Strong and Vibrant New York Communities

Cornell Cooperative Extension provides equal program and employment opportunities. NYS College of Agriculture and Life Sciences, NYS College of Human Ecology, and NYS College of Veterinary Medicine at Cornell University, Cooperative Extension associations, county governing bodies, and U.S. Department of Agriculture, cooperating.

2021 Growing Conditions

New York's 2021 corn growing season was generally warmer than long-term averages and wetter in many areas of the state. In May, most locations had seasonal temperatures and many areas were on the dry side, which facilitated timely planting. Temperatures through the main part of the growing season were generally above average. October was particularly warm across the entire state. In most locations, unusually high rainfall throughout the growing season and into the fall helped the crop tolerate the heat. Northern NY and a few other areas of the state were the exceptions, with drier than average conditions prevailing through the majority of the season. Across our yield testing sites, season-long heat accumulation was 10-20% higher than the long-term averages. Precipitation totals for May through October were low at our Madrid site (20% below the long-term average) but otherwise ranged from 20% to 60% above average, with most sites experiencing more than twice the typical monthly rainfall during several months of the growing season. Corn grain yield in NY was a record-high 170 bu/A for 2021, beating the previous record (166 bu/A in 2020). Yields for the last five years have been notably higher than previously, with 2017 through 2021 averaging 163 bu/acre while the average for the preceding 10-year period (2007 to 2016) was only 138 bu/acre in the state. Leaf disease pressure was not high in 2021 despite the high rainfall. Some gray leaf spot was found in high-humidity river valley areas.

Testing Procedures

Regional test locations for 2021 are shown on page –iii-. Tests were planted in 1/500 acre plots with three replications per location. All sites were machine planted and combine harvested. Grain weight and grain moisture percentage for each plot were measured electronically on the combine. Grain yields were calculated in bu/acre at 15.5% moisture.

Yield Moisture Ratio

We have included a yield to moisture ratio (**Y/M Ratio**), which is the grain yield in bu/acre divided by the percentage grain moisture at harvest. Some breeders use this number as an estimate of hybrid efficiency. Hybrids that show high yields and earlier maturity (lower grain moistures) have higher Y/M ratios.

Stalk Lodging and Root Lodging

At harvest time, we counted the number of stalks broken (or lodged) below the ear. This number was expressed as a proportion of the total number of plants in the plot (**% Stalk Ldg**). We also counted plants leaning over from the base at more than a 45° angle as root lodged, and then expressed this number as a proportion of the total number of plants in the plot (**% Root Ldg**).

Staygreen, Leaf Disease Ratings

Data were collected on these traits at locations where expression was uniform across the field and, for diseases, where disease pressure was sufficient. Stay green (**Stay Grn**) is a measure of how much green leaf area remains on plants through September; 5 = completely dry plants and 1 = completely green plants. Gray leaf spot resistance (**Gray Leaf Spot**) was rated using a scale where 3 = susceptible (notable disease development) and 0 = no disease apparent.

CV, LSD, SD

We use three statistics to evaluate the quality of the data from these experiments. The coefficient of variation (**CV**) is a measure of the amount of uncontrolled variability due to differences in the soil, microclimate, fertility, etc. Grain yield CVs below 12 are excellent; those ranging up to 15 are considered acceptable. Grain moisture CVs below 5 are excellent. The least significant difference (**LSD**) is computed at the 5% level of probability. If a difference between two hybrids is larger than the LSD listed for the trial, then the odds are at least 95 to 5 (or 19 to 1) that there is true varietal difference between the hybrids or, as the statisticians say, the difference between the two hybrids is "significant." Farmers who need a practical estimate more than statistical precision may consider a 10 bu/acre grain yield difference sufficient to guide a decision in choice of hybrid. The standard deviation (**SD**) is the measure used to determine whether the differences between two hybrids are large enough, given the precision of that experiment, to be significant and probably due to true differences between the hybrids.

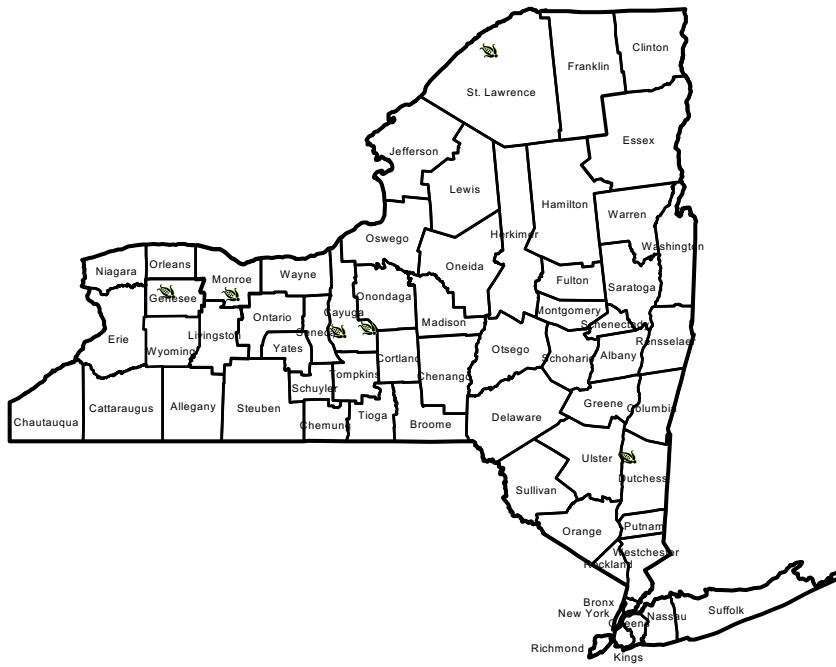
Acknowledgments

Financial support from the seed companies entering hybrids in these tests is gratefully acknowledged. We also acknowledge support from USDA-NIFA Smith Lever Project 1497603, USDA-NIFA Hatch Project 1497404, and the Cornell University Agricultural Experiment Station.

**NOTE: TABLES IN THIS PUBLICATION SHOULD NOT BE REPRODUCED
IF ANY PORTION IS OMITTED OR IF ORDER OF DATA IS CHANGED.**

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2021 Trial Locations



2021 Cooperators

Early/Medium-Early Grain Series

County	Cornell Cooperative Extension Local Contact	Cooperator	Location
Genesee	Mike Stanyard	Janette Veazey-Post	Oakfield
Cayuga	Keith Severson	John Nemic	New Hope
St. Lawrence	Kitty O'Neil	Jon Greenwood	Madrid

Medium Grain Series

County	Cornell Cooperative Extension Local Contact	Cooperator	Location
Cayuga	Keith Severson	Paul Stachowski	Aurora
Dutchess	Jenn Fimbel	Ken Migliorelli	Red Hook
Monroe	Mike Stanyard	Mark Greene	Pittsford

2021 Participating Companies

Company/Brand	Contact for Information	Address & Phone
Albert Lea Seed Viking Brand www.alseed.com	Jake Hansen jake@alseed.com	1414 W. Main, PO Box 127 Albert Lea, MN 56007 Phone: 800-352-5247
Local Seed Co. www.localseed.com info@localseed.com	Doug Messersmith doug.messersmith@localseed.com Phone: 570-419-3692	802 Rozelle Street Memphis, TN 38104 Phone: 901-260-6000
Seed Consultants, Inc. www.seedconsultants.com	Jordan Bassler jordan.bassler@seedconsultants.com Phone: 570-980-3906	648 Miami Trace Rd SW, PO Box 370 Washington Court House, OH 43160 Phone: 800-708-2676
Nutrien Ag Solutions Dyna-Gro Brand www.nutrienagsolutions.com Phone: 585-586-1330	Tom Barber tom.barber@nutrien.com Pittsford, NY 14534	Northeast Division Office 1173 Pittsford-Victor Rd., Suite 110

2021 Entries

Company/Brand	Maturity Group*	Hybrid	Relative Maturity	Genetically Engineered Traits**	Seed Treatment**
Dyna-Gro Seed	1	D36VC66	96	VT2 PRO	A500-Acceleron 500
Dyna-Gro Seed	1	D38VC38	98	VT2 PRO	A500-Acceleron 500
Dyna-Gro Seed	1	D40VC41	100	VT2 PRO	A500-Acceleron 500
Local Seed Company	1	LC9108 VT2PRIB	91	VT2P	Radius 500
Local Seed Company	1	ZS9598 5222EZ	95	Agrisure 5222 Duracade	Radius 500
Local Seed Company	1	ZS9796 3220EZ	97	Agrisure 3220 Viptera	Radius 500
Local Seed Company	2	LC0297 VT2PRIB	102	VT2P	Radius 500
Local Seed Company	2	LC0518 VT2PRIB	105	VT2P	Radius 500
Local Seed Company	2	LC0707 DGV2PRIB	107	Drought Gard / VT2P	Radius 500
Seed Consultants	1	SC851AM	85	AM - RR, LL	LumiGEN
Seed Consultants	1	SC901Q	90	Q - RR, LL	LumiGEN
Seed Consultants	1	SC931Q	93	Q - RR, LL	LumiGEN
Seed Consultants	1	SC951Q	95	Q - RR, LL	LumiGEN
Seed Consultants	2	SC1018AM	101	AM - RR, LL	LumiGEN
Seed Consultants	2	SC1042Q	104	Q - RR, LL	LumiGEN
Albert Lea Seed/Viking Seed	1	O.52-96P	96	Conventional	Cruiser 250 + SabrEx
Albert Lea Seed/Viking Seed	1	O.45-97UP	97	Conventional	1R + SabrEx LQ
Albert Lea Seed/Viking Seed	1	O.85-00P	100	Conventional	Cruiser 250 + SabrEx
Albert Lea Seed/Viking Seed	2	O.46-02P	102	Conventional	Cruiser 250 + SabrEx
Albert Lea Seed/Viking Seed	2	O.72-06P	106	Conventional	Cruiser 250
Albert Lea Seed/Viking Seed	2	O.48-08GS-P	108	Conventional	Cruiser 250 + SabrEx

**Table 1. 2021 Early/Medium-Early Maturity Hybrids Trial Summary
(Madrid, New Hope, Oakfield)**

Brand	Hybrid	Yield Bu/A	% Mois ture	Y/M Ratio	% Stalk Ldg	% Root Ldg
Seed Consultants	SC851AM	221	20.5	10.8	0	0
Seed Consultants	SC931Q	239	20.7	11.5	0	0
Dyna-Gro Seed	D36VC66	254	21.3	11.9	0	0
Local Seed Company	LC9108 VT2PRIB	265	21.6	12.3	0	0
Seed Consultants	SC901Q	258	21.6	11.9	0	0
Dyna-Gro Seed	D38VC38	253	21.6	11.7	0	0
Albert Lea Seed/Viking	O.45-97UP	244	21.9	11.1	0	0
Local Seed Company	ZS9598 5222EZ	255	22.0	11.6	0	0
Albert Lea Seed/Viking	O.52-96P	244	22.1	11.1	0	0
Local Seed Company	ZS9796 3220EZ	229	22.5	10.2	0	1
Albert Lea Seed/Viking	O.85-00P	248	22.8	10.9	1	0
Dyna-Gro Seed	D40VC41	266	23.2	11.5	0	0
Seed Consultants	SC951Q	240	23.4	10.3	1	0
	MEAN	247	21.9	11.3	0	0
	S.D.	18	1.0			
	C.V.	7.3	4.5			
	LSD(.05)	17	.9			

Table 2. 2021 Early/Medium-Early Maturity Hybrids, Madrid, St. Lawrence County, Northern NY

Brand	Hybrid	Yield Bu/A	% Mois ture	Y/M Ratio	% Stalk Ldg	% Root Ldg	Planted:		Harvested:		
							May 12 2021	Nov 4 2021	May 12 2021	Nov 4 2021	
Seed Consultants	SC851AM	224	21.2	10.6	0	1	86/50				
Seed Consultants	SC931Q	246	21.8	11.3	0	0	Growing		Rainfall		
Local Seed Company	LC9108 VT2PRIB	267	22.6	11.8	0	0	Degree Days (Inches)				
Albert Lea Seed/Viking	O.52-96P	252	22.9	11.0	0	0		2021	Ave.	2021	Ave.
Seed Consultants	SC901Q	271	23.1	11.8	0	0	May	285	268	0.5	3.0
Albert Lea Seed/Viking	O.45-97UP	248	23.1	10.8	1	0	June	540	439	2.7	3.5
Dyna-Gro Seed	D36VC66	266	23.2	11.5	0	0	July	508	574	4.9	3.4
Dyna-Gro Seed	D38VC38	249	23.2	10.7	0	0	Aug	650	523	2.6	3.6
Local Seed Company	ZS9598 5222EZ	284	23.2	12.2	0	0	Sept	357	331	2.2	3.6
Local Seed Company	ZS9796 3220EZ	231	23.5	9.8	1	1	Oct	216	128	4.0	3.6
Albert Lea Seed/Viking	O.85-00P	238	23.9	10.0	0	0					
Dyna-Gro Seed	D40VC41	273	24.0	11.4	0	0	Total	2556	2263	16.9	20.7
Seed Consultants	SC951Q	240	24.5	9.8	0	0	% Norm	113		81	
							Departure	293		-3.9	
		MEAN	253	23.1	11.0	0	0				
		S.D.	15	0.8							
		C.V.	6.0	3.3							
		LSD(.05)	25	1.3							

Table 3. 2021 Early/Medium-Early Maturity Hybrids, Oakfield, Genesee County, Western NY

Brand	Hybrid	Yield Bu/A	% Mois ture	Y/M Ratio	% Stalk Ldg	% Root Ldg	Stay Grn	Planted:		Harvested:		
								May 13 2021	Nov 8 2021	May 13 2021	Nov 8 2021	
Dyna-Gro Seed	D36VC66	252	18.1	13.9	0	1	2.5	86/50				
Seed Consultants	SC851AM	201	18.2	11.0	1	0	2.3	Growing		Rainfall		
Albert Lea Seed/Viking	O.52-96P	233	18.8	12.4	0	0	3.0	Degree Days (Inches)				
Seed Consultants	SC931Q	236	18.9	12.5	0	0	2.7		2021	Ave.	2021	Ave.
Albert Lea Seed/Viking	O.45-97UP	244	19.0	12.9	0	0	3.0	May	301	280	1.4	3.0
Local Seed Company	ZS9598 5222EZ	247	19.2	12.8	0	0	2.2	June	576	472	2.8	3.0
Local Seed Company	LC9108 VT2PRIB	274	19.3	14.2	0	0	2.5	July	574	598	8.5	3.1
Dyna-Gro Seed	D40VC41	270	19.4	13.9	0	0	3.0	Aug	694	554	2.5	3.1
Seed Consultants	SC901Q	258	19.5	13.2	1	0	2.3	Sept	413	361	4.3	3.6
Albert Lea Seed/Viking	O.85-00P	254	19.5	13.0	2	0	2.8	Oct	275	156	6.6	3.1
Dyna-Gro Seed	D38VC38	275	19.6	14.0	0	0	3.0					
Local Seed Company	ZS9796 3220EZ	232	19.8	11.7	0	0	2.8	Total	2833	2421	26.0	18.8
Seed Consultants	SC951Q	249	20.2	12.3	2	0	2.0	% Norm	117		138	
								Departure	412		7.2	
		MEAN	248	19.2	12.9	0	0	2.6				
		S.D.	24	0.8								
		C.V.	9.5	4.3								
		LSD(.05)	39	1.4								

Table 4. 2021 Early/Medum-Early Maturity Hybrids, New Hope, Cayuga County, Central NY

Brand	Hybrid	Yield Bu/A	% Mois ture	Y/M Ratio	% Stalk Ldg	% Root Ldg	Stay Grn	Planted:	Harvested:
								May 14 2021	Nov 2 2021
Seed Consultants	SC931Q	235	21.5	10.9	0	0	2.8	86/50	
Seed Consultants	SC851AM	237	21.9	10.8	1	1	2.8	Growing	Rainfall
Dyna-Gro Seed	D38VC38	236	22.0	10.7	0	0	2.8	Degree Days	(Inches)
Seed Consultants	SC901Q	244	22.3	11.0	1	0	2.2	2021	Ave.
Dyna-Gro Seed	D36VC66	243	22.5	10.8	0	0	1.8	May	233
Local Seed Company	LC9108 VT2PRIB	254	22.8	11.1	0	0	2.0	June	213
Local Seed Company	ZS9598 5222EZ	235	23.6	10.0	1	1	2.3	July	3.8
Albert Lea Seed/Viking	O.45-97UP	239	23.7	10.1	0	0	2.5	Aug	4.3
Local Seed Company	ZS9796 3220EZ	225	24.2	9.3	0	3	2.3	Sept	8.0
Albert Lea Seed/Viking	O.52-96P	246	24.4	10.1	0	0	2.5	Oct	4.0
Albert Lea Seed/Viking	O.85-00P	252	25.0	10.1	0	0	2.2	Total	664
Seed Consultants	SC951Q	231	25.5	9.0	0	0	1.5	% Norm	547
Dyna-Gro Seed	D40VC41	254	26.1	9.7	1	0	2.0	Departure	589
	MEAN	241	23.5	10.3	0	0	2.3		8.0
	S.D.	15	1.3						9.3
	C.V.	6.4	5.7						3.8
	LSD(.05)	26	2.2						3.8

**Table 5. 2021 Medium Maturity Hybrids Trial Summary
(Aurora, Pittsford, Red Hook)**

Brand	Hybrid	Yield Bu/A	% Mois ture	Y/M Ratio	% Stalk Ldg	% Root Ldg
Albert Lea Seed/Viking	O.46-02P	213	19.5	10.9	1	0
Local Seed Company	LC0297 VT2PRIB	233	19.7	11.8	0	0
Seed Consultants	SC1018AM	218	19.9	10.9	0	0
Local Seed Company	LC0518 VT2PRIB	214	20.2	10.6	0	0
Seed Consultants	SC1042Q	235	20.5	11.5	0	0
Albert Lea Seed/Viking	O.72-06P	211	21.1	10.0	0	0
Local Seed Company	LC0707 DGVT2PRIB	206	21.4	9.6	0	0
Albert Lea Seed/Viking	O.48-08GS-P	208	22.4	9.3	0	0
	MEAN	217	20.6	10.6	0	0
	S.D.	23	.8			
	C.V.	10.6	3.9			
	LSD(.05)	22	.8			

Table 6. 2021 Medium Maturity Hybrids, Aurora, Cayuga County, Central NY

Brand	Hybrid	Yield Bu/A	% Moisture			% Stalk		% Root		Stay Grn	Planted:		Harvested:	
			Mois ture	Y/M Ratio	Stalk Ldg	Root Ldg	May 20 2021	Nov 9 2021	Degree Days (Inches)					
Albert Lea Seed/Viking	O.46-02P	245	20.8	11.8	2	0	1.5	86/50						
Seed Consultants	SC1018AM	256	21.0	12.2	0	0	0.8	Growing					Rainfall	
Local Seed Company	LC0297 VT2PRIB	254	21.3	11.9	0	1	1.5	Degree Days					(Inches)	
Albert Lea Seed/Viking	O.72-06P	243	21.7	11.2	0	0	1.8	2021	Ave.	2021	Ave.			
Local Seed Company	LC0518 VT2PRIB	239	21.8	11.0	0	0	1.7	May	284	288	3.8	3.3		
Seed Consultants	SC1042Q	276	22.5	12.2	0	0	0.7	June	566	473	3.5	3.7		
Local Seed Company	LC0707 DGVT2PRIB	237	22.6	10.5	0	0	1.8	July	557	604	5.9	3.6		
Albert Lea Seed/Viking	O.48-08GS-P	220	23.1	9.5	1	0	1.2	Aug	671	565	7.7	3.5		
								Sept	386	365	4.1	4.0		
								Oct	279	155	8.2	3.8		
	MEAN	246	21.9	11.3	0	0	1	Total	2743	2450	33.0	22.0		
	S.D.	17	1.0					% Norm	112		150			
	C.V.	7.0	4.7					Departure	293		11.0			
	LSD(.05)	30	1.8											

Table 7. 2021 Medium Maturity Hybrids, Pittsford, Monroe County, Western NY

Brand	Hybrid	Yield Bu/A	% Moisture			% Stalk		% Root		Stay Grn	Planted:		Harvested:	
			Mois ture	Y/M Ratio	Stalk Ldg	Root Ldg	May 21 2021	Nov 17 2021	Degree Days (Inches)					
Local Seed Company	LC0297 VT2PRIB	258	19.9	13.0	1	1	2.8	86/50						
Albert Lea Seed/Viking	O.46-02P	220	20.1	11.0	0	0	2.3	Growing					Rainfall	
Local Seed Company	LC0518 VT2PRIB	231	20.7	11.1	0	0	2.2	Degree Days					(Inches)	
Seed Consultants	SC1018AM	228	20.7	11.0	0	0	2.2	2021	Ave.	2021	Ave.			
Seed Consultants	SC1042Q	251	20.9	12.0	0	0	1.7	May	294	265	1.3	2.9		
Albert Lea Seed/Viking	O.72-06P	213	21.6	9.9	0	0	2.3	June	576	461	1.7	3.3		
Local Seed Company	LC0707 DGVT2PRIB	193	22.4	8.6	0	0	2.2	July	553	613	6.7	3.3		
Albert Lea Seed/Viking	O.48-08GS-P	246	23.2	10.6	0	0	2.0	Aug	683	575	2.6	3.5		
								Sept	416	370	3.2	3.4		
								Oct	272	149	7.5	2.8		
	MEAN	230	21.2	10.9	0	0	2	Total	2794	2433	22.9	19.2		
	S.D.	26	0.8					% Norm	115		120			
	C.V.	11.4	3.8					Departure	361		3.8			
	LSD(.05)	45	1.4											

Table 8. 2021 Medum Maturity Hybrids, Red Hook, Dutchess County, Hudson Valle

Brand	Hybrid	Yield Bu/A	% Mois ture	Y/M Ratio	% Stalk Ldg	% Root Ldg	Stay Grn	Gray Leaf Spot	Planted:		Harvested:		
									May 19 2021		Nov 5 2021		
Albert Lea Seed/Viking	O.46-02P	173	17.7	9.8	0	1	2.5	1.0	86/50				
Seed Consultants	SC1018AM	170	18.0	9.4	0	0	3.0	1.0	Growing		Rainfall		
Local Seed Company	LC0297 VT2PRIB	188	18.0	10.5	1	0	3.0	1.0	Degree Days		(Inches)		
Local Seed Company	LC0518 VT2PRIB	173	18.0	9.6	0	0	2.7	0.3	2021	Ave.	2021	Ave.	
Seed Consultants	SC1042Q	177	18.0	9.8	0	0	2.7	1.0	May	314	333	6.4	4.0
Local Seed Company	LC0707 DGVT2PRIB	186	19.3	9.6	0	0	2.3	0.7	June	563	502	3.1	4.0
Albert Lea Seed/Viking	O.72-06P	179	19.9	9.0	1	0	2.8	1.7	July	605	626	10.1	4.4
Albert Lea Seed/Viking	O.48-08GS-P	158	20.7	7.6	0	0	2.8	1.3	Aug	680	581	3.8	4.1
									Sept	429	392	6.8	4.1
									Oct	250	191	6.7	4.5
	MEAN	176	18.7	9.4	0	0	2.7	1.0					
	S.D.	27	0.6										
	C.V.	15.4	3.3										
	LSD(.05)	46	1.1										
									Total	2841	2625	36.8	25.1
									% Norm	108		147	
									Departure	216		11.8	