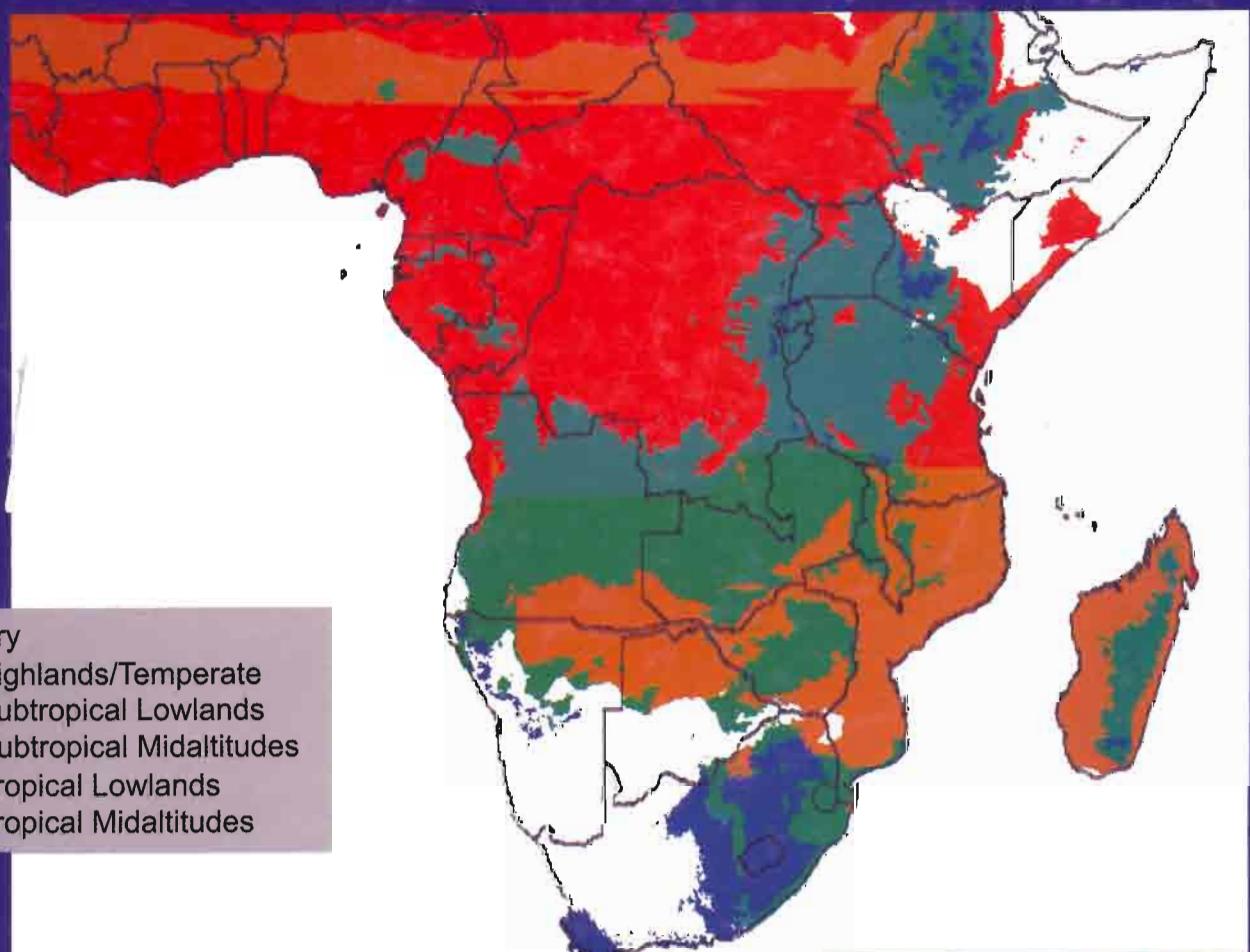




CIMMYT / MWIRNET

# Characterization of Elite Maize Germplasm Grown in Eastern and Southern Africa

Results of the 1999 Regional Trials conducted by CIMMYT and the Maize and Wheat Improvement Research Network for SADC (MWIRNET)



## **CIMMYT**

The International Maize and Wheat Improvement Center (CIMMYT) is an internationally funded, non-profit scientific research and training organization. Headquartered in Mexico, the Center works with agricultural research institutions worldwide to improve the productivity and sustainability of maize and wheat systems for resource-poor farmers in developing countries. It is one of 16 similar centers supported by the Consultative Group on International Agricultural Research (CGIAR). The CGIAR comprises over 50 partner countries, international and regional organizations, and private foundations. It is co-sponsored by the Food and Agriculture Organization (FAO) of the United Nations, the International Bank for Reconstruction and Development (World Bank), the United Nations Development Programme (UNDP), and the United Nations Environment Programme (UNEP).

## **The Maize and Wheat Improvement Research Network for SADC (MWIRNET)**

The Maize and Wheat Improvement Research Network for SADC (MWIRNET) is a network of maize and wheat scientists of SADC member states. The Network's objectives are to develop and facilitate the exchange of improved varieties of maize and wheat, and to strengthen the research capabilities of NARS through human resource development and exchange of information. The Network is coordinated by a Steering Committee composed of senior maize and wheat scientists of each SADC member state under the guidance of the Southern African Centre for Cooperation in Agricultural and Natural Resources Research and Training (SACCAR).. Activities of the Network are funded by the European Union (EU) and the Swiss Agency for Development and Cooperation (SDC).

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## **Acknowledgement**

These trials were supported by the collaborators listed in Section 6, the Swiss Agency for Development and Cooperation (SDC), the Department for International Development (DFID), the European Union, and the Rockefeller Foundation.

**Correct Citation:** Bänziger, M., K.V. Pixley, B. Vivek, and B.T. Zambezi. 2000. Characterization of elite maize germplasm grown in eastern and southern Africa: Results of the 1999 regional trials conducted by CIMMYT and the Maize and Wheat Improvement Research Network for SADC (MWIRNET). Harare, Zimbabwe. CIMMYT.

**Accuracy of information:** The information in this publication is based on results available at the time of publication. This does not exclude that the germplasm may perform differently if grown at other sites, or under different conditions.

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## 1. Introduction

### **Maize germplasm**

The trials evaluated elite pre-release and released maize germplasm supplied by CIMMYT, National Agricultural Research Programs, and private seed companies from southern and eastern Africa.

CIMMYT-Zimbabwe collected the germplasm, grouped it according to vigor and maturity, and formed six replicated trials:

**EPOP99:** early to intermediate maturing open-pollinated varieties (OPV's)

**ILPOP99:** intermediate to late maturing open-pollinated varieties (OPV's)

**EIHYB99:** early to intermediate maturing hybrids

**ILHYB99:** intermediate to late maturing hybrids

**TZONE99:** open-pollinated varieties (OPV's) for the transition zone (1800-2400 masl)

**EAIL99:** elite and advanced inbred lines

Each trial had an alpha (0,1) lattice design with three replicates. ILHYB99 contained six dwarf maize varieties from the Africa Centre for Fertilizer Development (ACFD). These dwarf varieties were grouped at the beginning or the end of each replicate to prevent shading by the normal tall varieties.

### **Trial management**

The trials were grown by CIMMYT, National Agricultural Research Programs, private seed companies and non-governmental organizations in eastern and southern Africa. Collaborators were encouraged to grow the trials under different types of conditions:

**Well-fertilized/rain-fed conditions:** trials were grown using optimal site-specific agronomic practices

**Managed nitrogen stress:** trials were grown in fields that had been depleted of nitrogen by growing unfertilized, non-leguminous crops for several seasons and removing the crop biomass after each season. Nitrogen fertilization to maize trials was designed so that yields under managed N stress averaged 20-35% of the yield of a well-fertilized maize crop at that site.

**Managed drought stress:** trials were grown during a rain-free period, with irrigation applied at the beginning of the season to establish a good plant stand. Afterwards, irrigation was withheld so that the crop suffered drought stress during flowering and grain-filling, resulting in average yields of about 1-3 t/ha.

**Artificial inoculation/infestation of biotic stress factors:** trials (mainly EAIL99) were grown under artificial inoculation/infestation of leaf diseases, stem borers, maize grain weevils and *Striga hermonthica*.

A complete list of the sites can be found in Section 5.

## Data analysis

In each table, entries are grouped by anthesis date and, except for EAIL99, sorted according to the average rank for yield across all sites. Within each maturity group, best ranking entries are listed at the top.

For presenting grain yields, sites were grouped into the following five environments:

- Lowland tropics, rainfed/well-fertilized
- Midaltitudes in eastern Africa, rainfed/well-fertilized
- Midaltitudes in southern Africa, rainfed/well-fertilized
- Managed and random drought stress
- Managed N stress

This grouping was done based on the location (for making the division among rainfed/well fertilized sites, see Fig.1) and the management of the sites (rainfed/well fertilized, managed drought stress, managed N stress).

Each trial is presented with two summary tables and individual site results.

## Summary tables:

The summary tables present grain yields averaged across sites for each of the five environments, and data on agronomic performance such as anthesis date, plant and ear height, ear position, root and stem lodging, husk cover, ear rot, leaf diseases, *Striga* counts, grain weevil and stem borer damage, grain texture and grain moisture.

Within each maturity group, grain yields were color-coded. Within a maturity group, colors that have no letter in common in the legend are different by at least one 'Least Significant Difference' (LSD,  $P = 0.05$ ). LSDs were calculated from the mean square error that was pooled across sites. Note: colors can only be used to compare grain yields within a certain maturity group. For comparing grain yields between maturity groups, use the LSD listed at the bottom of the table.

Color legend	
A	Very good
AB	Good
BC	Average
CD	Poor
	Very poor

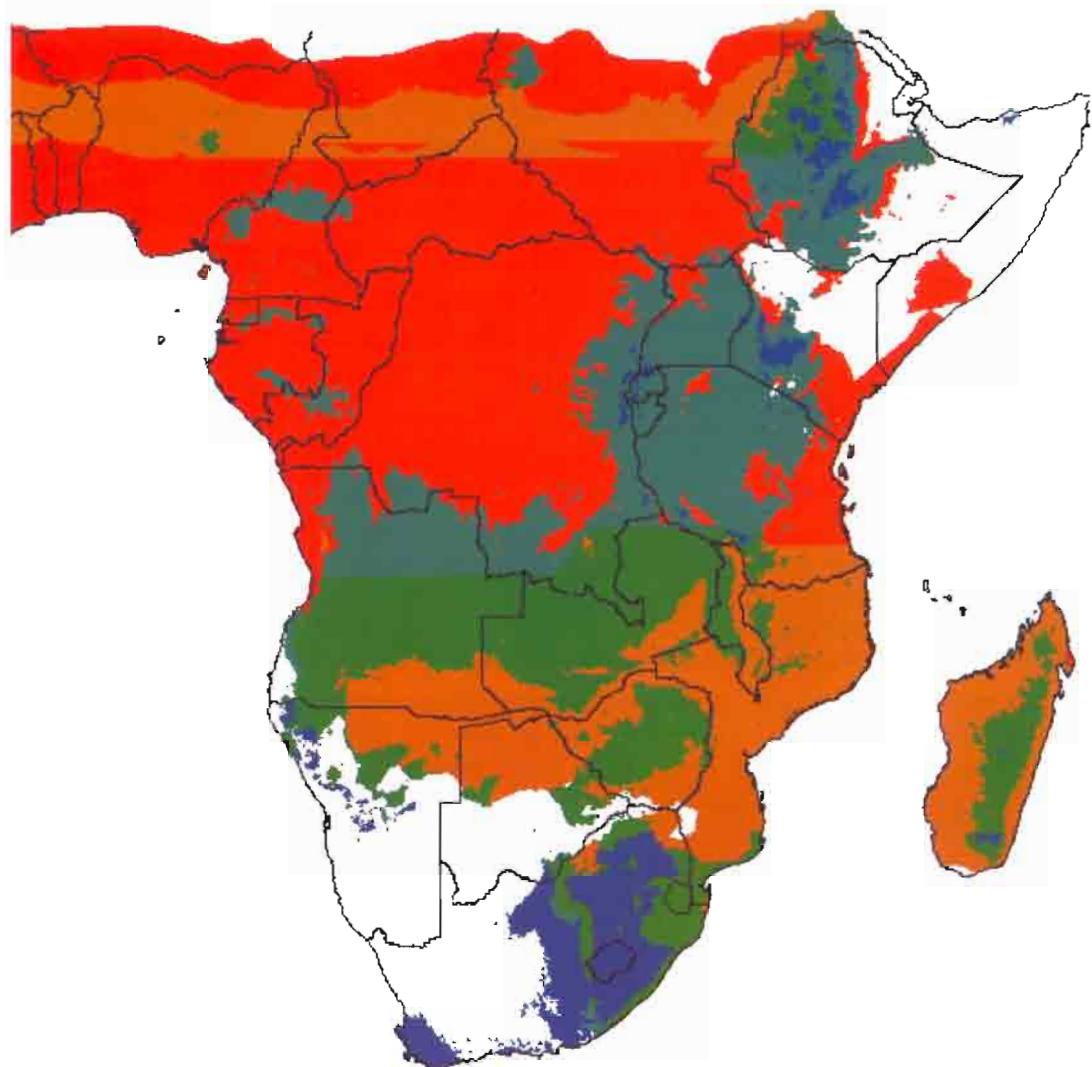
Within a maturity group, colors that have no letter in common are different by at least one LSD.

Data on anthesis date, plant and ear height, ear position, leaf diseases, *Striga* infestation, grain weevil and stem borer damage, grain texture and grain moisture were averaged across those sites that provided results with significant differences between entries. If no data are presented for these traits, no trial data demonstrating significant differences for these traits was available. Data on root and stem lodging, husk cover, and ear rot were averaged across all sites. A description of all measurements can be found in Section 4.

## Individual site results:

These tables present grain yields for individual sites, grouped by environment. A description of the sites can be found in Section 5.

**Fig 1. CIMMYT Maize Mega-Environment classification based on day length, mean temperature, and rainfall.**



Megaenvironment	Day length	Mean Temp.	Rainfall
Dry			$\leq 200 \text{ mm}$
Tropical Lowlands	$11 \leq d < 12.5 \text{ hrs}$	$\geq 24^\circ \text{C}$	$> 200 \text{ mm}$
Tropical Midaltitudes	$11 \leq d < 12.5 \text{ hrs}$	$18^\circ \text{C} \leq T < 24^\circ \text{C}$	$> 200 \text{ mm}$
Subtropical Lowlands	$12.5 \leq d < 13.4 \text{ hrs}$	$\geq 24^\circ \text{C}$	$> 200 \text{ mm}$
Subtropical Midaltitudes	$12.5 \leq d < 13.4 \text{ hrs}$	$18^\circ \text{C} \leq T < 24^\circ \text{C}$	$> 200 \text{ mm}$
Highlands/Temperate	$d \geq 13.4 \text{ hrs}$	<u>or</u> $T < 18^\circ \text{C}$	$> 200 \text{ mm}$

## **How can the results be used ...**

### **.... by National Agricultural Research Programs?**

- Request seed of the very best stress-tolerant, responsive OPV's and (triple- and double-cross) hybrids from CIMMYT, other National Programs, and private seed companies, and further test them in the National Maize Evaluation Trials.
- Conduct National Maize Evaluation Trials not only under optimal conditions but also under the most important stresses present in farmers' fields. Consider performance under stress conditions and farmers' preferences when making decisions on release of germplasm.
- Request and use seed of best CIMMYT germplasm (inbred lines, OPV's) in your breeding program.

### **.... by Private Seed Companies?**

- Foster the distribution of cultivars that are not only high yielding under optimal conditions but as well under the most important stresses present in farmers' fields.
- Continue to submit seed of your best germplasm for evaluation in Regional Trials (to CIMMYT) and/or National Maize Evaluation Trials (to National Agricultural Research Programs of individual countries).
- Request and use seed of best CIMMYT germplasm (inbred lines, OPV's) in your breeding program and for commercialization.

### **.... by seed-distributing agencies?**

- Use data from Regional Trials (available from CIMMYT-Zimbabwe) and National Maize Evaluation Trials (available from National Agricultural Research Programs of individual countries) for making decisions on which seed to distribute to farmers.
- Distribute quality seed of the very best stress-tolerant, responsive hybrids and OPV's that are currently available.

***Conclusion: Foster the availability and distribution of quality seed of the very best maize cultivars, those that are not only high yielding under optimal conditions but as well under the stresses present in farmers fields.***

EPOP99: Results of early and intermediate maturing OPVs from CIMMYT, Malawi, Tanzania, and South Africa across eastern and southern Africa, 1998/99. For individual site results, see pages 18-23.

Entry Pedigree	Origin	Acreage		Rel. GY	Rank	Lowlands		Midalt EA		Grain yield		N stress	Aith date
		%	Avg			StdDev		t/ha		t/ha			
<b>OPVs with anthesis date between 54 and 57 days</b>													
5 Z97EWA-F2/Z97EWB-F2	CIMMYT-ZIM	101	12	5	3.33	3.13	4.64	2.81	1.91	55.9			
10 [EARLY-MID-1/KATUMANI-SR]#	CIMMYT-ZIM	98	13	6	3.18	3.76	5.00	2.57	1.78	56.9			
3 Z97EWA-F2#	CIMMYT-ZIM	94	15	6	3.23	3.38	4.45	2.44	1.67	56.5			
4 Z97EWB-F2#	CIMMYT-ZIM	92	15	6	2.97	3.29	4.04	2.51	1.75	54.8			
<b>OPVs with anthesis date between 57 and 59 days</b>													
12 ZM421 = SADVE F1	CIMMYT-ZIM	119	5	3	3.71	4.22	5.19	3.15	2.44	58.5			
6 ZM303 = [EARLY-MID-2/PL16-SR]#	CIMMYT-ZIM	105	10	5	3.60	3.91	5.15	2.33	2.19	57.7			
8 [TEWD-SRDRTOLSYN/[NAW5867/P30-SR(S2#)]]]#	CIMMYT-ZIM	100	12	5	3.38	4.00	4.51	2.56	1.85	57.9			
1 ZM301	CIMMYT-ZIM	103	12	5	3.48	3.57	4.40	2.64	1.74	57.5			
15 DTP1-W C6 SEL PRECOZ F3	CIMMYT-MEX	104	14	7	3.16	3.63	4.30	2.60	2.13	58.2			
11 [VARTEMP/HILANDPOP]##	CIMMYT-ZIM	95	14	6	3.10	4.16	5.07	2.26	1.76	58.5			
9 EV7992/POOL16-SR#S1SEL-F3	CIMMYT-ZIM	95	14	5	3.39	3.83	4.20	2.32	1.77	58.0			
18 KATUMANI-ST#	TANZANIA	96	16	6	3.44	3.74	4.27	2.28	1.80	57.7			
16 POOL16BNSEQ C1 F2	CIMMYT-MEX	88	17	6	2.91	3.18	3.85	2.50	1.66	57.1			
7 [DMRESR-W]#(EARLY SEL)##	CIMMYT-ZIM	90	17	5	2.62	3.23	3.82	2.70	1.89	58.7			
<b>OPVs with anthesis date between 59 and 62 days</b>													
13 ZM521 = { SADV1 F1	CIMMYT-ZIM	127	3	2	4.23	5.28	8.03	2.81	2.62	61.1			
14 SADV2 F1	CIMMYT-ZIM	124	5	4	3.98	5.17	6.23	2.74	2.31	59.8			
17 MATINDIRH#	MALAWI	95	13	7	3.40	4.33	4.43	2.12	1.97	60.6			
2 GRADE (ENF-2)##	SOUTH AFRICA	98	13	6	3.54	4.48	4.24	2.42	1.81	59.2			
24 LOCAL CHECK 3	various origins	102	14	8	3.06	3.99	4.76	2.40	2.24	59.8			
23 LOCAL CHECK 2	various origins	90	15	7	3.19	4.36	5.49	1.94	1.76	59.5			
22 LOCAL CHECK 1	various origins	91	16	8	3.07	3.24	4.24	2.26	1.74	59.8			
19 KITO-ST#	TANZANIA	88	16	6	3.47	4.45	4.74	1.46	1.81	59.9			
<b>OPVs with anthesis date between 63 and 64 days</b>													
21 SYNTHETIC-C-NUE-SR#	CIMMYT-KEN	103	8	7	3.89	5.34	5.73	1.97	2.01	63.9			
20 SYNTHETIC-DR-SR#	CIMMYT-KEN	102	10	7	3.85	5.25	5.30	2.07	1.79	63.3			
<b>Mean LSD (n=5)</b>													
Mean		100	42	6	3.40	4.04	4.72	2.41	1.91	58.8			
LSD (n=5)					0.28	0.68	0.55	0.23	0.30	0.6			
Min:		88	3	2	2.93	3.13	3.55	1.82	1.50	54.8			
Max:		127	7	8	4.23	5.34	6.23	3.15	2.62	63.9			

LSDs were calculated from the mean square error that was pooled across sites.

Within a maturity group, colors that have no letter in common are different by at least one LSD.

Color legend

A Very good  
AB Good  
BC Average  
CD Poor  
D Very poor

**EPO/P99: Results of early and intermediate maturing OPVs from CIMMYT, Malawi, Tanzania, and South Africa across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across		Plant height		Ear height		Lodg root		Husk cover		GLS		Pucc sorghil		E turcic		DMR		Strig count		Grain weevill		Grain text		Grain moist		
	Rel	GY	Rank	%	Avg	Sidev	d	cm	%	%	1-5	1-5	1-5	1-5	m <sup>-2</sup>	F1	1-5	m <sup>-2</sup>	F1	1-5	%						
<b>OPVs with anthesis date between 54 and 57 days</b>																											
5 Z97EW-A-F2/Z97EW-B-F2	101	12	5	55.9	176	76	8	10	7	13	1.9	2.3	2.3	2.3	40	106	3.0	15.0									
10 [EARLY-MID-1]KATUMANI-SR]-#	98	13	6	56.9	183	85	8	10	6	12	1.9	1.4	2.3	1.3	21	103	3.1	14.4									
3 Z97EW-A-F2-#	94	15	6	56.5	173	77	10	8	11	14	2.1	0.8	2.1	3.7	25	139	3.4	15.1									
4 Z97EW-B-F2-#	92	15	6	54.8	172	71	7	10	8	17	2.1	1.7	2.3	2.0	29	122	2.6	14.3									
<b>OPVs with anthesis date between 57 and 59 days</b>																											
12 ZM421 = SADVE F1	119	5	3	58.5	179	82	6	9	8	16	1.3	2.0	2.2	2.0	31	154	3.0	15.4									
6 ZM303 = [EARLY-MID-2]PL16-SR]#	105	10	5	57.7	179	81	8	10	10	16	1.5	2.5	1.9	3.7	96	3.6	15.3										
8 [TEWD-SRDRTOLSYN](NAW5867/P30-SR(S2#))##	100	12	5	57.9	175	76	7	9	5	13	1.9	2.7	2.3	1.0	32	104	3.3	14.5									
1 ZM301	103	12	5	57.5	179	76	9	11	7	15	1.9	2.5	2.3	1.7	34	130	3.3	15.5									
15 DTP1-W C6 SEL PRECOZ F3	104	14	7	58.2	176	75	9	9	12	20	1.9	1.9	2.1	1.7	33	100	2.9	16.0									
11 [VARTEMP HILLANDPOP]##	95	14	6	58.5	188	83	10	11	9	17	1.7	1.3	2.5	2.3	31	120	3.5	15.3									
9 [EV7992/POOL16-SR]#S1SEL-F3	95	14	5	58.0	177	76	9	12	11	18	2.0	1.9	2.4	2.0	34	129	3.5	14.7									
96 16 6 57.7 192 89 8 10 6 14 2.2 2.1 2.3 2.3 34 127 2.7 16.1	96	16	6	57.7	192	89	8	10	6	14	2.2	2.1	2.3	2.3	34	127	2.7	16.1									
16 POOL 16 BNSEQ C1 F2	88	17	6	57.1	165	69	6	9	8	17	3.1	2.2	2.2	2.0	36	124	3.6	14.6									
7 [DMRESR-W]#b[EARLY SEL]#	90	17	5	58.7	177	82	9	9	6	8	2.3	1.8	2.3	3.0	34	100	3.1	14.8									
<b>OPVs with anthesis date between 59 and 62 days</b>																											
13 ZMS21 = { SADVI1 F1	127	3	2	61.1	194	90	5	6	9	12	1.4	1.8	1.9	1.7	31	88	3.1	15.6									
14 SADVI2 F1	124	5	4	59.8	189	85	6	9	6	11	1.3	1.7	2.1	2.3	40	113	3.1	16.2									
17 MATINDIRI#	95	13	7	60.6	177	80	8	8	10	12	1.5	1.8	2.4	1.3	31	60	1.7	15.4									
2 GRACE (EWF2) #	98	13	6	59.2	184	86	8	9	5	17	1.9	2.7	2.3	3.0	33	2.8	16.4										
24 LOCAL CHECK 3	102	14	8	59.8	187	90	7	8	9	12	2.9	1.9	2.3	1.3	32	3.5	15.0										
23 LOCAL CHECK 2	90	15	7	59.5	184	83	7	9	9	17	1.4	1.6	2.3	3.0	30	76	3.6	16.0									
22 LOCAL CHECK 1	91	16	8	59.8	184	85	6	8	5	12	2.8	1.2	2.1	1.0	11	242	2.0	15.1									
19 KITO-ST#	88	16	6	59.9	192	90	6	9	7	15	1.9	2.3	2.7	1.7	29	112	2.9	16.1									
<b>OPVs with anthesis date between 63 and 64 days</b>																											
21 SYNTHETIC-NUE-SR#	103	8	7	63.9	182	91	7	7	8	14	1.9	2.3	1.9	3.1	117	3.0	15.4										
20 SYNTHETIC-DR-SR#	102	10	7	63.3	188	88	6	7	6	12	1.5	2.6	2.1	1.3	32	123	2.7	17.1									
Mean:																											
LSD (0.05)																											
Min:																											
Max:																											

ILPOP99: Results of intermediate and late maturing OPVs from CIMMYT, Malawi, and Tanzania across eastern and southern Africa, 1998/99. For individual site results, see pages 24-27.

Entry Pedigree	Origin	Across		Grain yield				Anth	
		Rel GY	Rank	Lowlands	Midalt EA	Midalt SA	Drought	N stress	date
%	Avg	Std dev	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	d
<b>OPVs with anthesis date between 67 and 70 days</b>									
13 ZM621 = SADVL F1	CIMMYT-ZIM	125	4	4	3.35	6.46	7.96	2.59	2.72
11 LATAC1F1/LATBC1 F1	CIMMYT-ZIM	112	7	4	2.93	6.35	6.74	2.36	2.37
14 MASIKA#	MALAWI	113	8	5	3.23	5.96	6.11	2.36	68.8
12 DRACOSYNF1/DRBC0SYN F1	CIMMYT-ZIM	113	8	5	3.25	6.05	6.48	2.35	68.4
1 297SYNGLS(A)-F2#	CIMMYT-ZIM	104	10	6	3.28	5.53	6.44	2.08	2.34
6 [TUXP SEQ C6]C1 F2	CIMMYT-ZIM	105	11	6	2.88	5.57	6.60	2.16	67.4
7 [TSEQZIM]C2 F2	CIMMYT-ZIM	103	11	6	2.71	5.69	6.58	2.05	69.5
19 CHITIBU #	MALAWI	99	12	6	2.92	5.68	6.21	2.08	69.9
10 INTAC1F1/INTBC1 F1	CIMMYT-ZIM	100	13	6	2.71	5.87	5.91	2.19	68.3
8 [ZM601DEN]C3 F2	CIMMYT-ZIM	100	13	6	2.42	5.55	5.86	2.10	69.1
16 KAKHOMERA#	MALAWI	97	14	7	2.58	5.08	5.31	2.09	69.1
18 SUNDWE#	MALAWI	95	15	6	2.66	5.31	6.01	2.00	67.6
4 [MID ALT QPM]C2 F2#	CIMMYT-ZIM	94	15	6	2.47	4.51	5.99	2.00	68.7
24 LOCAL CHECK 2	various origins	91	16	7	2.71	5.22	5.27	1.70	2.00
21 TMV-1#	TANZANIA	91	17	4	2.55	5.01	5.47	1.96	69.4
5 [WHITE QPM]C2 F2#	CIMMYT-ZIM	87	17	6	2.24	4.86	5.09	1.82	68.7
15 MCHOSANJALA#	MALAWI	80	20	4	2.34	4.43	5.01	1.74	67.8
<b>OPVs with anthesis date between 70 and 73 days</b>									
2 297SYNGLS(B)-F2#	CIMMYT-ZIM	108	9	7	3.14	5.63	7.12	2.16	2.09
22 TASEQ#	CIMMYT-KEN	107	10	7	2.58	6.23	6.22	2.09	70.9
9 [SUWAN1-SR/COMPETE]C1#	CIMMYT-ZIM	105	10	7	2.65	5.97	7.28	2.32	72.6
3 AC969A-SR(Best FS) F2	CIMMYT-ZIM	98	13	8	2.57	6.09	6.50	1.85	70.4
23 LOCAL CHECK 1	various origins	94	15	6	2.33	5.34	5.60	1.85	72.6
17 KAFUMBA#	MALAWI	91	16	5	2.75	5.07	4.93	1.90	70.3
20 STAHA#	TANZANIA	89	16	5	2.42	5.20	5.98	1.73	70.6
<b>Mean</b>									
LSD (0.05)		100	12	6	2.74	5.53	6.11	2.06	2.16
Min		80	4	4	2.24	4.43	4.93	1.70	0.7
Max		125	20	8	3.35	6.45	7.95	2.59	69.5
								2.72	67.4
									72.6

**ILPOP99 - Results of intermediate and late maturing OPVs from CIMMYT, Malawi, and Tanzania across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across		Plant		Ear		Lodging		Husk		Ear		GLS		Pucc		E		Grain		
	Rel GY	Rank	Anth date	height	height	posit	root	stem	cover	rot	soughi	turcic	weevil	text	weevil	text	weevil	text	moist	text	
%	Avg	Siderv	d	cm	cm	%	%	%	%	%	%	%	1-5	1-5	F1	1-5	%	%	%	%	
<b>OPVs with anthesis date between 67 and 70 days</b>																					
13 ZM621 = SADVL F1	125	4	4	69.6	206	52	5	5	8	11	1.5	1.7	1.8	56	4.1	15.8					
11 LATAC1F1/LATBC1 F1	112	7	4	68.8	211	100	50	7	5	8	12	2.2	1.8	1.5	65	3.6	14.7				
14 MASIKA#	113	8	5	68.4	201	100	51	5	6	6	13	2.0	1.4	1.8	62	3.6	14.2				
12 DRACOSYNF1/DRBCOSYN F1	113	8	5	67.4	208	98	47	7	5	9	15	3.1	1.8	1.5	93	4.7	15.1				
1 Z97SYNGLS(A)-F2#	104	10	6	69.5	200	100	47	3	6	9	11	2.1	1.6	1.5	61	3.9	15.8				
6 [TUXPSEQC6]C1 F2	105	11	6	69.9	200	102	54	7	7	8	11	1.6	1.6	1.7	108	3.8	14.8				
7 [TSEQZIM]C2 F2	103	11	6	69.1	202	95	47	4	4	11	13	1.8	1.6	1.7	77	4.1	15.3				
19 CHITIBU #	99	12	6	68.3	206	102	50	6	7	7	10	2.2	1.7	1.7	52	2.8	14.4				
10 INTAC1F1/INTBC1 F1	100	13	6	68.2	202	95	50	5	6	8	14	2.3	1.7	1.5	107	4.0	14.4				
8 [ZM601DEN]C3 F2	100	13	6	69.1	201	100	53	5	7	6	12	2.2	1.6	2.7	93	3.4	15.7				
16 KAKHOMERA#	97	14	7	69.1	206	100	48	5	6	6	9	1.7	1.6	1.8	85	3.3	14.9				
18 SUNDWE#	95	15	6	67.6	198	96	46	9	7	6	14	1.7	1.8	1.7	73	3.7	14.8				
4 [MIDALTQPM]C2 F2#	94	15	6	68.7	200	94	46	7	4	8	9	1.8	1.8	1.8	77	2.8	14.8				
24 LOCAL CHECK 2	91	16	7	69.4	206	104	63	8	6	8	9	1.6	1.9	1.7	68	3.6	15.4				
21 TMV-1#	91	17	4	68.7	206	107	52	6	7	6	9	2.5	2.2	1.7	75	1.8	14.6				
5 [WHITE QPM]C2 F2#	87	17	6	67.8	196	92	46	5	6	9	15	2.3	1.5	2.0	126	2.7	14.7				
15 MCHOSANJALA#	80	20	4	69.9	198	95	52	4	5	16	12	3.1	1.6	1.7	98	2.6	13.5				
<b>OPVs with anthesis date between 70 and 73 days</b>																					
2 Z97SYNGLS(B)-F2#	108	9	7	70.9	203	100	52	4	5	10	8	1.8	1.8	1.7	72	3.3	16.4				
22 TASEQ#	107	10	7	72.6	208	105	48	4	5	9	9	1.6	2.2	3.3	69	3.3	16.2				
9 [SUWAN1-SR COMPE1]C1#	105	10	7	70.4	219	114	53	6	9	11	17	2.0	1.8	2.0	94	3.9	15.8				
3 AC969A-SR(Best FS) F2	98	13	8	72.6	208	108	49	6	5	8	9	1.4	1.8	1.7	59	3.3	16.6				
23 LOCAL CHECK 1	94	15	6	70.3	200	103	50	10	5	8	11	1.8	2.3	2.0	180	3.6	16.0				
17 KAFUMBA#	91	16	5	70.6	193	103	50	6	5	9	10	2.3	2.0	2.0	114	3.5	15.8				
20 STAHA#	89	16	5	72.4	220	125	55	7	5	9	10	2.0	1.7	2.2	75	3.3	16.3				
Mean	100	12	6	69.5	204	102	51	6	6	8	11	2.0	1.8	1.9	85	3.4	15.3				
LSD (0.05)				0.7	7	1	3	2	5	3	0.5	0.4	0.6	47	0.4	0.8					
Min	80	4	4	67.4	193	92	46	3	4	6	8	1.4	1.4	1.5	52	1.3	13.5				
Max	125	20	8	72.8	220	125	63	10	9	16	17	3.1	2.3	3.3	180	4.7	16.6				

**EIHYB99: Results of early and intermediate maturing hybrids from CIMMYT, CARGILL, DR&SS, PANNAR and SEED-CO across eastern and southern Africa, 1998/99. For individual site results, see pages 28-32. For the color legend, see pages 6, 8, 12 or 14.**

Entry Pedigree	Origin	Across			Grain yield					Anth date	
		Rel GY	Rank	%	Avg	Stdev	t/ha	t/ha	t/ha		
<b>Hybrids with anthesis date between 61 and 65 days</b>											
30 953WH237	DR&SS	100	25	11	3.68	6.49	5.22	2.82	2.08	61.7	
5 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWB	CIMMYT	94	31	13	2.91	6.41	5.71	2.17	2.45	64.9	
8 CML205/Z97EWB	CIMMYT	90	33	10	3.58	5.79	5.76	2.30	1.78	64.1	
9 CML205/ZM301	CIMMYT	90	33	11	4.05	6.55	5.97	2.30	1.47	64.9	
43 SC401	SEED-CO	82	36	12	4.46	6.38	3.46	2.23	1.79	63.7	
<b>Hybrids with anthesis date between 65 and 68 days</b>											
4 [COMPE2/P43-SR//COMPE2] FS#-20-S7/CML390	CIMMYT	120	13	11	5.24	8.52	7.61	2.52	2.99	67.1	
31 ZS255	DR&SS	122	16	13	5.10	8.41	5.61	2.98	3.18	65.7	
12 G16BNSEQC0F118-1-1-B-B/CML202	CIMMYT	118	16	11	4.62	6.63	6.72	2.91	3.00	66.5	
49 SC515	SEED-CO	105	20	13	4.66	8.19	6.52	2.54	2.25	66.3	
13 G16SeqC1F47-2-1-2-1-B-B/B/CML202	CIMMYT	113	20	13	4.67	6.80	5.32	2.80	3.31	66.8	
44 SC403	SEED-CO	111	21	15	5.18	7.76	5.00	2.84	2.95	65.3	
46 SC407	SEED-CO	105	22	14	4.11	7.80	5.68	2.50	2.47	66.2	
6 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWA	CIMMYT	102	23	13	3.82	7.42	5.87	2.62	2.12	65.2	
45 SC405	SEED-CO	102	23	12	3.90	7.55	5.16	2.83	2.19	65.2	
22 G16BNSEQC0F228-2-3-B-B/CML202	CIMMYT	107	23	14	3.30	6.16	6.36	2.79	2.41	67.6	
36 PAN 6321	PANNAR	102	24	12	4.40	7.67	5.50	2.63	3.08	66.8	
47 SC501	SEED-CO	95	26	13	4.46	7.49	4.70	2.43	2.31	67.7	
1 [(NAW 5867/P30-SR)-111-2 (NAW 5867/P30-SR)-25-1]-8-S7/CML205	CIMMYT	100	28	11	4.61	6.80	5.36	2.64	2.03	67.9	
37 PAN 6363	PANNAR	95	29	15	3.38	7.12	4.77	2.77	1.59	67.6	
32 983WH102	DR&SS	93	30	12	3.39	8.11	5.44	2.22	1.90	67.0	
10 CML205/Z97EWA	CIMMYT	94	31	11	3.58	7.34	5.24	2.33	1.86	65.2	
40 CG4141	CARGILL	89	32	16	3.79	6.40	2.81	2.63	1.70	66.1	
42 R201	SEED-CO	85	34	16	4.22	7.12	3.60	2.34	1.72	67.6	
<b>Hybrids with anthesis date between 68 and 71 days</b>											
2 [(NAW 5867/P30-SR)-111-2 (NAW 5867/P30-SR)-25-1]-8-S7/CML390	CIMMYT	114	16	11	5.76	7.87	6.76	2.85	2.24	70.3	
14 [COMPE2/P43-SR//COMPE2] FS#-20-1-I-B-1-B-B/CML202	CIMMYT	113	16	10	4.92	7.85	7.12	2.75	2.25	68.9	
16 SPLC7182-1-2-2-B-B-B/CML202	CIMMYT	111	19	15	5.03	8.44	6.47	2.76	2.49	70.5	
48 SC513	SEED-CO	112	19	11	4.61	7.05	6.40	2.82	2.67	68.5	
20 INTA-191-2-1-2-B-B-B/CML202	CIMMYT	107	20	13	4.37	7.93	7.51	2.35	2.27	70.2	
21 LATA-26-1-1-2-1-B-B/CML202	CIMMYT	108	21	17	5.33	6.88	7.21	2.37	2.61	69.9	
11 [(K64R/PL16-SR)-39-1 (K64R/PL16-SR)-20-2]-5-12-B-B-B/CML202	CIMMYT	105	22	11	4.03	5.21	6.05	2.70	2.64	68.3	
23 G16SeqC1F47-2-1-2-1-B-B-B/CML206	CIMMYT	109	24	12	4.29	6.28	5.80	2.47	1.14	69.3	
27 INTB-91-1-2-2-1-B-B/CML206	CIMMYT	103	24	12	4.45	6.74	5.58	2.66	2.51	69.0	
39 PAN 6561	PANNAR	97	25	15	4.23	7.35	6.22	2.36	1.97	68.5	
18 [(NAW 5867/P30-SR)-111-2 (NAW 5867/P30-SR)-25-1]-8-1-1-B-1-B/CML202	CIMMYT	102	26	15	5.49	6.81	5.29	2.59	2.45	70.3	
24 DTP1WC6F181-1-#-3-1-1-B-B-B/CML206	CIMMYT	92	29	11	4.34	7.36	5.60	2.05	2.25	70.0	
35 PAN 6235	PANNAR	93	29	16	6.26	7.16	6.02	2.64	1.30	68.6	
50 LOCAL CHECK	various origins	93	30	14	3.89	7.12	5.08	2.19	2.35	69.2	
41 CG4585	CARGILL	85	32	13	4.60	5.21	4.90	2.30	1.85	68.8	
25 [(K64R/P30-SR)-82-2 (K64R/P30-SR)-87-4]-7-3-4-B-B-B-B/CML206	CIMMYT	87	35	11	3.50	4.85	5.49	2.12	1.97	68.2	
33 PAN 473	PANNAR	85	35	9	3.48	7.13	5.41	2.22	1.33	69.4	
34 PAN 6043	PANNAR	83	36	13	3.51	7.03	4.28	2.24	1.18	69.4	
38 PAN 6549	PANNAR	75	41	13	1.08	8.09	4.83	1.94	1.13	69.8	
<b>Hybrids with anthesis date between 71 and 73 days</b>											
17 TS6C1F238-1-3-3-1-2-#-B-B-B/CML202	CIMMYT	117	15	15	5.32	8.68	7.08	2.39	3.21	72.1	
15 IKENE6B149SR-6B-2-BBB-6-BB-B-B-B/CML202	CIMMYT	113	17	14	5.15	7.49	6.76	2.67	2.82	71.5	
19 [(EV7992# (EV8449-SR)C1F2-334-1 (OSU81)-10-7(I-X-X-X-2-B-B-1-B)CML202	CIMMYT	107	19	13	4.62	8.24	6.82	2.51	2.44	72.3	
3 [(NAW 5867/P30-SR)-111-2 (NAW 5867/P30-SR)-25-1]-8-S7/CML395	CIMMYT	103	23	14	4.50	7.62	6.47	2.51	2.23	72.3	
26 TS6C1F238-1-3-3-1-2-#-B-B-B/CML206	CIMMYT	101	24	15	4.80	8.11	7.02	2.11	2.22	73.0	
7 [(NAW 5867/P49-SR)(S2#) (NAW 5867)FS#-48-S7/CML216	CIMMYT	99	25	18	3.53	8.36	8.15	1.81	2.04	73.0	
28 ZM605 C2F1-17-1-B-1-B/CML205	CIMMYT	89	31	17	4.14	6.45	6.24	2.04	1.77	72.1	
29 [(TUXPSEQC1F2/P49-SR)F2-103-2-2-3-B/CML206	CIMMYT	80	37	12	3.60	6.84	5.80	1.82	1.78	71.3	
Mean		100	25	13	4.29	7.15	5.78	2.47	2.22	68.2	
LSD (0.05)					1.16	1.21	0.84	0.47	0.73	0.8	
Min		76	13	9	2.91	4.55	3.48	1.51	1.13	61.7	
Max		122	41	18	5.76	8.68	8.15	2.98	3.31	73.0	

**EIHYB99: Results of early and intermediate maturing hybrids from CIMMYT, CARGILL, DR&SS, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.**

Entry / Pedigree	Across:			Anth date	Plant height	Ear height	Ear posil	Lodging		Ear ref	GLS	Pucc sorgho	E turcic	Grain test	Grain moist	
	Ref GY	Rank						root	stem							
	%	Avg	Sidex	d	cm	cm	%	%	%	%	1-5	1-5	1-5	1-5	%	
<b>Hybrids with anthesis date between 61 and 65 days</b>																
30 953WH237	100	25	11	61.7	194	80	43	2	7	13	2.0	1.7	2.3	3.5	13.5	
5 [COMPE2/P43-SR/COMPE2] FS#-20-S7/Z97EWB	94	31	13	64.9	205	81	45	1	5	7	2.7	2.2	2.3	3.0	12.5	
8 CML205/Z97EWB	90	33	10	64.1	193	85	46	2	8	9	2.4	2.0	2.4	2.5	13.4	
9 CML205/ZM301	90	33	11	64.9	189	91	47	1	8	9	1.9	2.1	2.1	3.0	12.5	
43 SC401	82	36	12	63.7	188	79	44	4	9	10	3.7	1.8	2.4	3.8	12.0	
<b>Hybrids with anthesis date between 65 and 68 days</b>																
4 [COMPE2/P43-SR/COMPE2] FS#-20-S7/CML390	120	13	11	67.1	218	103	48	3	4	2	2.0	1.7	2.1	2.3	12.6	
31 2S255	122	16	13	65.7	203	91	46	1	2	15	2.3	1.4	2.1	3.7	16.3	
12 G16BNSEQC0F118-1-1-B-B/CML202	118	16	11	69.5	202	89	46	1	8	1	2.5	1.9	1.8	3.0	14.1	
49 SC515	105	20	13	68.3	210	105	51	3	3	6	1.4	2.5	1.8	3.3	14.8	
13 G16SeqC1F47-2-1-2-1-B-B-B/CML202	113	20	13	68.8	181	82	46	0	6	2	1.9	1.8	2.4	13.1		
44 SC403	111	21	15	65.3	209	94	44	1	4	4	2.8	2.0	2.3	2.8	12.6	
46 SC407	105	22	14	66.2	216	94	45	1	6	5	2.3	2.0	2.0	3.0	14.8	
6 [COMPE2/P43-SR/COMPE2] FS#-20-S7/Z97EWA	102	23	13	65.2	204	100	48	2	7	8	2.5	1.7	2.3	3.7	12.3	
45 SC405	102	23	12	65.2	196	85	45	3	8	8	1.9	2.1	2.0	3.3	14.8	
22 G16BNSEQC0F228-2-3-B-B-B/CML202	107	23	14	67.6	208	96	49	1	9	4	2.3	1.9	1.8	2.8	15.0	
36 PAN 6321	102	24	12	66.8	203	94	49	3	8	14	2.4	1.4	2.4	3.9	12.6	
47 SC501	95	26	13	67.7	226	122	53	1	13	18	3.0	2.0	2.3	4.1	13.4	
1 [NAW 5867/P30-SR]-111-2[NAW 5867/P30-SR]-25-1]-5-S7/CML205	100	28	11	67.9	200	99	49	2	5	5	2.3	1.6	2.1	3.0	13.6	
37 PAN 6363	95	29	15	67.6	190	94	51	2	7	11	2.3	1.6	2.2	4.0	12.8	
32 983WH102	93	30	12	67.0	209	100	47	2	7	9	2.4	1.7	2.1	3.4	14.7	
10 CML205/Z97EWA	94	31	11	66.2	192	95	49	3	5	8	2.4	1.8	2.3	2.9	12.3	
40 CG4141	89	32	16	66.1	208	97	49	3	10	17	3.6	2.1	2.0	4.1	11.9	
42 R201	85	34	16	67.6	205	106	52	2	10	25	3.5	1.7	2.4	4.0	14.1	
<b>Hybrids with anthesis date between 68 and 71 days</b>																
2 [NAW 5867/P30-SR]-111-2[NAW 5867/P30-SR]-25-1]-5-S7/CML390	114	16	11	70.3	209	103	51	2	8	2	1.9	1.7	2.0	1.9	14.3	
14 [COMPE2/P43-SR/COMPE2] FS#-20-1-1-B-1-B-B/CML202	113	16	10	68.9	213	108	49	1	7	4	1.5	1.7	1.9	3.2	13.3	
16 SPLC7F182-1-2-2-B-B/B/CML202	111	19	15	70.5	214	113	52	0	9	1	2.7	1.3	2.0	2.4	13.9	
48 SC613	112	19	11	68.5	216	107	51	3	8	9	1.3	1.9	2.0	3.4	16.1	
20 INTA-191-2-1-B-B-B/CML202	107	20	13	70.2	207	102	49	2	1	3	1.2	2.2	1.9	2.6	14.9	
21 LATA-26-1-1-2-1-B-B-B/CML202	108	21	17	69.9	207	105	50	2	7	2	1.6	1.4	1.9	2.3	15.4	
11 [KG4R/PL16-SR]-39-1/[KG4R/PL16-SR]-20-2]-5-1-2-B-B-B/CML202	105	22	11	68.3	197	100	52	1	6	2	2.2	1.9	2.2	2.3	14.1	
23 G16SeqC1F47-2-1-2-1-B-B-B/CML206	109	24	12	69.3	176	87	50	2	4	1	2.4	1.4	2.4	2.4	14.7	
27 WTB-91-1-2-2-1-B-B/CML206	103	24	12	69.0	197	85	43	2	2	4	2.2	1.4	2.0	2.4	13.5	
39 PAN 6561%	97	25	15	68.5	177	88	50	2	5	14	2.2	1.7	2.3	4.1	15.4	
18 [NAW 5867/P30-SR]-111-2[NAW 5867/P30-SR]-25-1]-8-1-1-B-B/CML202	102	26	15	70.3	203	99	50	3	11	2	2.7	1.7	2.0	2.6	15.6	
24 DTP1W0CF181-1-6-3-1-1-B-B-B/CML206	92	29	11	70.0	194	94	50	1	4	2	2.1	1.8	2.4	2.9	12.6	
35 PAN 6235	93	29	16	68.6	191	100	53	3	5	17	2.5	1.7	2.4	4.1	13.5	
50 LOCAL CHECK	93	30	14	69.2	212	110	52	4	8	19	2.7	1.4	2.1	3.2	14.6	
41 CG4585	88	32	13	68.8	200	101	49	2	8	20	3.3	2.2	2.1	3.9	14.4	
25 [KG4R/P30-SR]-82-2/[KG4R/P30-SR]-87-4]-7-3-4-B-B-B/CML206	87	35	11	68.2	201	85	44	1	7	3	2.6	1.3	2.1	3.0	13.2	
33 PAN 473	85	35	9	69.4	188	91	50	2	8	12	2.7	1.6	2.4	4.0	14.1	
34 PAN 6043	83	36	13	69.4	191	93	51	3	7	13	2.9	1.8	2.4	3.6	15.4	
36 PAN 6549	75	41	13	69.8	207	103	51	4	5	13	2.5	1.4	2.4	3.5	15.0	
<b>Hybrids with anthesis date between 71 and 73 days</b>																
17 TS0C1F238-1-3-3-1-2-B-B-B/CML202	117	15	15	72.1	211	101	47	1	3	2	2.4	1.6	2.1	2.6	16.1	
15 IKENE1405SR-06-2-BBB-6-BB-B-B/CML202	113	17	14	71.5	213	98	47	3	5	2	2.0	1.6	2.2	2.6	16.0	
19 [EV1992]/[EV6449-SR]C1F2-534-1[OSUB8]-10-7V-X-X-X-2-B-B-1-B/CML202	107	19	13	72.3	207	101	50	1	8	2	1.9	2.3	1.9	3.0	17.0	
3 [NAW 5867/P30-SR]-111-2[NAW 5867/P30-SR]-25-1]-8-S7/CML395	103	23	14	72.3	202	103	50	1	4	3	2.1	1.8	2.0	3.8	18.2	
28 T88C1F238-1-3-3-1-2-B-B-B/CML206	101	24	15	73.0	202	100	47	0	3	3	2.7	1.4	2.0	2.7	15.3	
7 [NAW 5867/P49-SR]-52#[/NAW 5867] FS4-48-S7/CML216	99	25	18	73.0	218	118	57	2	5	3	1.8	1.8	2.1	2.3	14.8	
26 ZM805 C2F1-17-1-6-1-B/CML206	89	31	17	72.1	198	80	46	2	4	7	1.6	1.4	2.1	2.3	14.7	
29 [TU-AKSEQC]C1F2/P49-SR]F2 103-2-2-5-B/CML206	80	37	12	71.3	193	81	46	2	4	10	2.0	1.9	2.2	2.5	15.9	
<b>Mean</b>	109	25	13	69.2	202	87	49	3	8	8	2.3	1.7	2.1	3.1	14.2	
<b>LSD (0.05)</b>				0.8	9	8	4	3	5	8	0.8	0.8	0.3	0.3	1.8	
<b>Min</b>	75	13	9	61.7	176	78	43	0	1	1	1.2	1.3	1.8	1.8	11.9	
<b>Max</b>	122	41	18	73.0	226	122	57	4	13	28	3.7	2.5	2.6	4.1	18.2	

ILHYB99: Results of intermediate and late maturing hybrids from CIMMYT, CARGILL, DR&SS, Malawi, PANNAR and SEED-CO across eastern and southern Africa, 1998/99. For individual site results, see pages 33-36.

Entry Pedigree	Origin	Across				Grain yield				Anth date
		Rel GY	Rank	Lowlands	Midalt EA	Midalt SA	Drought	N stress		
		%	Avg	Sdev	Maize	Lnd	Maize	Maize	Wt	
<b>Hybrids with anthesis data between 68 and 71 days</b>										
24 ILUXPSEQ/C1F2/P49-SRJF2-45-1-2-B/CML202	CIMMYT	112	25	18	5.24	7.83	7.57	2.89	3.14	70.3
25 ILUXPSEQ/C1F2/P49-SRJF2-45-7-5-1-B/CML202	CIMMYT	105	26	20	5.40	11.52	8.98	2.27	2.83	70.4
47 PAN6573	PANNAR	110	27	19	5.05	8.88	7.12	3.16	2.67	70.6
51 C8016	CARGILL	113	28	17	6.32	7.01	6.10	1.20	3.55	69.2
50 C8001	CARGILL	107	34	20	5.78	8.24	5.87	3.13	3.24	68.1
56 SC627	SEED-CO	100	34	19	4.98	9.72	6.42	2.79	1.94	70.4
52 C8037	CARGILL	100	36	23	6.23	7.45	6.36	1.09	2.48	69.0
49 PAN67	PANNAR	95	39	19	4.83	7.67	5.68	2.62	1.88	70.5
38 INBRED A/CML202	MALAWI	87	39	15	5.37	8.98	6.34	1.46	2.39	70.2
55 SC621	SEED-CO	86	40	15	5.21	8.86	6.27	1.44	2.53	70.1
46 PAN6479	PANNAR	94	41	19	5.00	6.64	5.09	2.63	2.11	70.2
40 973WH29	DR&SS	91	41	19	4.78	7.13	6.93	2.36	1.89	70.9
42 PAN6193	PANNAR	89	45	19	5.02	6.99	5.12	2.79	2.16	69.5
<b>Hybrids with anthesis data between 71 and 74 days</b>										
68 M37W/M607/Bf37ar-2-3sr-6-2-Xj-8-2-X-1-BBB/P43C9-1-1-1-1-BBB	CIMMYT	123	16	16	5.92	9.46	7.79	3.23	3.57	72.7
13 CML202/CML204/CML312	CIMMYT	121	19	16	8.62	10.79	7.29	2.68	4.08	71.8
7 CML202/CML395/CML312	CIMMYT	116	20	21	5.50	11.52	7.63	2.31	3.87	71.8
10 CML202/CML216/CML312	CIMMYT	112	20	19	8.39	11.81	7.49	1.85	3.57	72.0
53 C8027	CARGILL	114	22	15	5.80	9.14	7.14	2.67	3.88	73.7
19 M37W/M607/Bf37ar-2-3sr-6-2-Xj-8-2-X-1-BBB/CML202	CIMMYT	113	25	15	5.71	9.10	6.65	3.08	3.17	71.0
54 C8040	CARGILL	116	27	20	5.71	7.39	6.58	3.14	3.94	sterile
4 CML202/CML216/CML312/CML206	CIMMYT	108	27	12	5.71	9.39	6.72	2.69	3.07	72.3
16 BS19S2no68-1-2-BBB/CML202	CIMMYT	111	27	14	5.99	8.97	6.47	2.89	3.15	72.4
49 PAN6587	PANNAR	110	27	16	5.23	9.36	6.81	3.08	2.63	71.4
22 [AC8342/IKENNE/1B/149SR/PL9A]C1F1-500-#-X-1-1-BB-1-B/CML202	CIMMYT	106	28	13	5.72	9.22	6.65	2.73	2.83	71.0
44 PAN643	PANNAR	109	28	15	5.96	9.06	6.87	2.89	2.82	71.4
9 CML204/CML216/CML312	CIMMYT	102	29	18	5.29	10.30	7.08	1.88	1.81	72.1
30 DRB-F2-60-1-1-B/CML206	CIMMYT	107	29	18	5.45	9.12	6.48	2.89	2.82	72.0
5 CML204/CML216/CML312/CML206	CIMMYT	102	29	16	6.80	8.79	6.17	1.86	3.88	72.6
17 CML216/MERET(W)F2-14-S8	CIMMYT	108	30	17	8.28	8.42	6.29	2.67	3.17	72.1
21 SNSYH2[137TX-A-001-2B-1-3-1-BSK-BB/CML202	CIMMYT	103	30	18	5.42	9.32	7.40	2.30	2.33	72.4
6 CML202/CML395/CML390	CIMMYT	103	30	14	5.41	10.35	6.51	2.32	3.00	72.0
1 CML202/CML204/CML312/CML206	CIMMYT	104	30	15	5.23	10.22	6.34	2.66	2.83	72.4
3 CML202/CML395/CML312/CML206	CIMMYT	99	31	15	5.13	10.29	6.76	1.85	3.14	72.3
2 CML202/CML395/CML312/CML206	CIMMYT	99	32	18	5.93	9.82	6.28	1.74	3.46	72.9
31 SC2/ZM656B-19-2-Xj-2-X-1-BBB/CML206	CIMMYT	101	32	15	5.90	7.84	6.27	2.39	3.06	72.5
14 CML350/CML209/CML398	CIMMYT	109	33	14	6.12	9.94	6.17	2.38	2.49	73.7
23 LPSC4F273-2-2-BBB/CML202	CIMMYT	102	33	15	5.08	8.66	6.25	2.66	2.99	73.1
32 ZSR0254BULK-2-2-X-X-X-1-BBB/CML206	CIMMYT	97	33	18	5.78	10.58	6.39	1.15	3.06	73.2
45 PAN6335	PANNAR	102	33	19	5.66	7.74	6.43	2.55	2.64	71.5
20 LATA-F2-13B-1-3-1-BBB/CML202	CIMMYT	97	34	18	5.79	7.60	6.52	2.43	2.17	71.9
57 SC709	SEED-CO	92	35	22	8.25	9.83	7.18	1.79	2.19	73.0
35 DRB-F2-180-2-1-BB/CML206	CIMMYT	98	36	15	5.14	7.63	5.58	2.39	2.57	73.3
37 ILUXPSEQ/C1F2/P49-SRJF2-45-7-5-1-B/CML206	CIMMYT	95	37	16	5.54	8.02	6.01	2.38	2.80	71.5
15 CML202/CML206	CIMMYT	90	40	12	5.79	9.55	6.17	1.88	2.40	73.9
43 PAN6195	PANNAR	93	40	16	5.77	8.89	6.09	2.57	2.17	72.1
81 ACD42 (Dwarf maize)	ACFD	93	41	19	5.49	7.39	6.89	2.38	2.51	71.8
36 INTB-117-1-2-1-1-BB/CML206	CIMMYT	90	41	18	5.62	8.29	6.13	2.38	2.58	71.7
28 LPSC3H144-1-2-2-2-4-#-BB/CML206	CIMMYT	91	42	14	5.08	5.74	5.76	2.37	2.77	73.8
39 INBRED VCML206	MALAWI	80	42	17	5.92	7.63	7.83	2.58	2.09	71.7
66 LOCAL CHECK	various origins	74	45	21	4.18	8.87	5.95	1.89	2.01	73.4
41 PAN413	PANNAR	81	48	19	5.62	8.33	6.95	2.33	1.94	71.6
80 ACD11 (Dwarf maize)	ACFD	78	50	19	4.59	5.38	4.95	1.96	2.29	71.8
59 ACD21 (Dwarf maize)	ACFD	76	51	14	4.37	4.98	5.15	1.96	2.14	71.7
58 ACDV2 (Dwarf maize)	ACFD	71	52	15	4.74	6.99	4.89	1.90	1.99	72.8
63 ACD82 (Dwarf maize)	ACFD	66	55	13	4.56	6.84	5.04	1.85	1.99	72.7
52 ACD51 (Dwarf maize)	ACFD	66	55	12	4.49	6.62	4.81	1.89	1.84	71.5
<b>Hybrids with anthesis data between 74 and 77 days</b>										
29 P432-1-1-1-1-BBB/CML206	CIMMYT	115	25	15	6.23	9.08	7.68	2.71	2.98	73.3
12 CML202/CML205/CML597	CIMMYT	109	23	21	6.34	11.57	7.30	1.90	3.19	76.0
15 CML372/CML205/CML597	CIMMYT	101	25	19	5.51	10.35	7.23	2.25	3.60	74.3
16 CML204/CML197	CIMMYT	110	27	19	5.71	11.35	6.81	2.19	3.46	76.9
24 CML205/CML206	CIMMYT	108	27	19	5.80	11.29	6.58	2.33	2.93	75.1
33 CML088/CML206	CIMMYT	103	30	17	6.78	8.42	6.63	2.27	2.53	74.3
35 LPSC4F273-2-2-1-BBB/CML206	CIMMYT	105	32	17	5.87	7.63	6.93	2.88	3.20	74.8
31 CML202/CML218/CML206	CIMMYT	94	34	19	5.85	9.32	6.10	2.27	2.73	74.7
34 DTP2WC042-55-1-2-2-BBB/CML197	CIMMYT	91	37	18	5.38	9.32	6.34	1.86	2.58	74.1
27 LPSC01144-1-2-2-2-#-BBB/CML206	CIMMYT	91	42	18	6.46	7.69	6.25	2.20	2.41	74.2
Mean		99	34	17	5.57	8.52	6.70	2.34	2.74	72.3
LSD					0.30	2.10	0.61	0.52	0.64	7.7
Min		66	18	12	4.18	4.37	4.41	1.02	1.38	68.1
Max		123	55	23	8.75	11.63	7.75	3.25	4.09	76.8

ILHYB99: Results of intermediate and late maturing hybrids from CIMMYT, CARGILL, DR&SS, Malawi, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.

Entry Pedigree	Across			Anth date	Plant height	Ear height	Ear posi	Lodging		Husk cover	Ear rol	GLS	Pucc sorghu	E wreck	Grain weight	Grain text	Grain moist	
	Rel GY	Rank	%					d	cm	cm								
<b>Hybrids with anthesis date between 18 and 71 days</b>																		
24 [TUXPSEO]C1F2/P49-SR]F2-45-5-1-2-B/CML202	112	25	18	70.3	189	104	49	11	12	8	8	1.9	1.5	2.3	55	3.6	18.3	
25 [TUXPSEO]C1F2/P49-SR]F2-45-7-5-1-B/CML202	105	26	20	70.4	193	104	50	8	13	10	9	2.3	1.8	2.1	53	3.4	16.5	
47 PAN6573	110	27	19	70.6	201	106	48	6	11	15	7	2.8	2.0	2.1	95	4.6	17.1	
51 C8016	113	28	17	69.2	194	107	48	9	8	12	9	2.5	1.8	1.9	68	4.7	16.7	
50 C8001	107	34	20	68.1	188	97	47	6	10	11	12	2.8	2.4	2.1	54	4.6	16.8	
58 SC627	100	34	19	70.4	203	114	52	6	9	7	13	1.1	2.7	2.3	34	3.9	18.8	
52 C8037	100	36	23	69.0	190	102	49	10	14	15	16	4.1	2.7	2.7	4.5	16.4		
49 PAN67	95	39	19	70.5	198	112	51	7	12	12	13	3.2	2.4	2.4	82	3.6	17.8	
38 'NBRED A/CML202	87	39	15	70.2	200	118	52	15	16	10	6	4.2	2.3	1.8	44	4.1	17.0	
55 SC621	86	40	15	70.1	208	114	51	10	10	9	5	3.0	1.9	2.3	53	3.9	16.3	
46 PAN6479	94	41	19	70.2	190	103	50	7	12	17	10	3.5	2.0	1.9	51	4.6	17.8	
40 973WH29	91	41	19	70.9	211	116	51	10	17	7	16	1.9	2.2	2.4	53	4.3	17.4	
42 PAN6193	89	45	19	68.5	191	103	49	10	15	17	18	4.0	2.3	2.8	69	4.5	16.7	
<b>Hybrids with anthesis date between 71 and 74 days</b>																		
65 M37W/ZM607#bF37sr-2-3sr-6-2-X]-8-2-X-1-BBB/P43C9-1-1-1-1-1-BBB	123	16	16	72.7	198	112	52	10	11	6	6	2.7	2.0	1.9	44	4.8	17.9	
13 CML202/CML204/CML312	121	19	16	71.8	205	113	49	8	14	10	6	3.4	2.0	2.3	72	3.3	17.4	
7 CML202/CML395//CML312	116	20	21	71.8	203	109	50	7	9	11	5	3.1	1.8	2.1	78	3.5	18.7	
10 CML202/CML216//CML312	112	20	19	72.0	211	112	49	8	10	9	4	2.7	1.8	2.0	37	3.0	17.8	
53 C8027	114	22	15	73.7	203	111	51	10	12	5	4	1.8	2.5	2.2	55	3.3	16.9	
19 M37W/ZM607#bF37sr-2-3sr-6-2-X]-8-2-X-1-BBB/CML202	113	25	15	71.0	196	107	50	12	10	6	8	3.2	1.8	1.7	83	4.5	17.6	
54 C8040	116	27	20	sterile	194	112	54	10	11	7	15	1.9	2.6	2.1	4.5	16.4		
4 CML202/CML216//CML312/CML206	108	27	12	72.3	195	104	50	8	14	8	6	3.6	1.9	2.0	82	3.0	17.4	
18 BS19S2n068-1-2-BBB/CML202	111	27	14	72.4	192	108	50	10	15	8	8	2.9	2.3	2.6	22	3.8	16.8	
48 PAN6587	110	27	16	71.4	200	110	51	7	9	15	14	2.5	2.3	2.2	124	4.6	17.6	
22 [AC8342//KENNE(1)8149SR//PL9A]C1F1-500-4-X-1-1-BB-1-B/CML202	106	28	13	71.0	185	106	51	12	13	6	3	2.2	1.7	2.3	70	3.0	17.4	
44 PAN6243	109	28	15	71.4	201	114	50	11	9	15	9	3.5	2.2	2.0	83	4.7	16.9	
9 CML204/CML216//CML312	102	29	18	72.1	214	116	51	10	13	10	7	3.4	1.6	1.9	48	3.0	19.5	
30 DRB-F2-60-1-1-1-B/CML206	107	29	18	72.0	200	107	48	9	8	9	6	2.3	1.8	1.9	79	3.0	18.4	
5 CML204/CML216//CML312/CML206	102	29	16	72.6	210	114	51	9	10	8	6	3.9	1.9	2.7	91	2.9	18.5	
17 CML216//MBR-ET(W)F2 14-S8	108	30	17	72.1	213	116	49	10	12	10	7	3.4	1.8	2.1	44	2.6	18.7	
21 SNSYNF2[N3/TUX-A-90]-28-1-3-BSR-BB/CML202	103	30	18	72.4	191	109	52	12	16	14	6	2.7	1.8	2.5	67	4.5	17.9	
6 CML202/CML395//CML390	103	30	14	72.0	200	111	51	9	18	8	3	3.3	1.8	2.2	40	1.8	16.5	
1 CML202/CML204/CML312/CML206	104	30	15	73.4	198	106	50	9	12	8	6	3.8	2.1	2.4	35	3.2	17.8	
3 CML202/CML395//CML312/CML206	99	31	15	72.3	201	108	50	8	12	11	7	3.2	1.4	2.0	61	3.3	18.5	
2 CML202/CML395//CML390//CML206	99	32	18	72.9	198	109	52	8	14	8	5	3.7	1.8	1.9	61	2.7	17.6	
31 SC/ZM605#b-19-2-X]-1 2-X-1-BBB/CML206	101	32	18	72.5	197	105	49	8	9	11	3	2.6	1.8	2.3	53	2.7	17.6	
14 CML390//CML206/CML395	100	33	14	73.7	196	108	51	8	10	8	5	3.1	2.1	2.5	68	4.0	18.9	
23 LPSC4F273-2-2-3-BBB/CML202	102	33	15	73.1	201	107	49	10	14	13	5	2.7	2.3	2.3	37	3.3	16.8	
32 ZSR923S4BU-LK-2-X-X-X-1-BBB/CML206	97	33	18	73.2	188	94	47	9	11	9	4	2.6	2.1	2.3	81	2.6	17.0	
45 PAN6335	102	33	19	71.5	195	104	46	8	7	18	5	3.5	2.3	2.2	67	4.8	16.5	
20 LATA-F2-138-1 3-1-BB/CML202	97	34	18	71.9	200	110	49	14	16	7	4	3.5	2.0	2.4	73	3.0	17.6	
57 SC709	92	35	22	73.0	212	120	53	11	9	10	10	1.1	2.3	2.0	50	4.6	19.3	
35 DRB-F2-180-2-1-BB/CML206	98	36	15	73.3	188	99	49	7	11	8	12	3.3	1.9	2.6	44	3.7	18.7	
37 [TUXPSEO]C1F2/P49-SR]F2-45-7-5-1-B/CML206	95	37	16	71.5	186	102	50	7	13	11	24	3.1	1.6	2.4	41	3.4	17.5	
15 CML202/CML206	90	40	12	73.9	190	102	48	8	17	6	3	3.5	1.6	2.0	120	3.1	17.7	
43 PAN6195	93	40	16	72.1	203	113	51	10	11	10	22	3.9	2.4	2.3	66	4.1	18.4	
61 ACD42 (Dwarf maize)	93	41	19	71.8	147	67	42	7	8	7	12	2.3	1.8	2.2	82	3.4	18.1	
36 INT-117-1-2-1 BB/CML206	90	41	18	71.7	187	95	49	8	10	10	7	2.0	1.9	2.6	48	3.1	17.1	
28 LPSC3H144-1-2-2-2-4-BBB/CML206	91	42	14	73.8	192	96	46	8	8	6	6	1.8	2.2	2.6	23	3.6	17.0	
39 INBRED A/CML206	90	42	17	71.7	199	107	48	12	15	8	8	4.7	2.0	2.0	168	4.1	17.7	
66 LOCAL CHECK	74	45	21	73.4	212	120	55	9	10	11	10	2.2	2.1	2.4	62	3.7	17.4	
41 PAN413	81	48	19	71.6	174	89	49	12	13	20	14	3.8	2.1	2.1	68	4.7	18.3	
60 ACD31 (Dwarf maize)	78	50	19	71.6	131	59	41	9	8	11	22	1.6	1.9	3.1	60	3.9	18.0	
59 ACD21 (Dwarf maize)	76	51	14	71.7	139	58	38	10	6	8	16	1.5	2.3	3.2	91	4.1	18.4	
58 ACD12 (Dwarf maize)	71	52	15	72.3	139	59	39	7	8	7	26	1.6	1.4	2.9	81	4.1	17.7	
63 ACD62 (Dwarf maize)	66	55	13	72.7	149	64	38	6	6	9	17	1.9	2.0	3.0	51	4.2	19.5	
62 ACD51 (Dwarf maize)	66	55	12	71.5	144	63	40	7	9	15	16	1.9	1.8	3.0	74	4.2	18.1	
<b>Hybrids with anthesis date between 74 and 77 days</b>																		
28 P43C9-1-1-1-1-1-BBB/CML206	115	20	15	75.3	200	111	49	9	8	6	3	2.1	2.0	2.6	99	4.0	17.5	
12 CML202/CML395//CML197	109	23	21	76.0	223	134	58	9	8	6	3	2.5	1.8	2.3	51	2.1	20.5	
8 CML312//CML206/CML197	111	25	19	74.3	211	121	56	8	8	9	6	2.5	1.8	2.1	72	1.8	19.9	
16 CML216//CML197	110	27	19	76.9	225	139	56	9	9	5	4	3.7	1.8	2.1	74	1.6	19.2	
34 CML395//CML206	106	27	19	75.1	201	107	50	8	11	6	3	3.1	1.8	2.1	70	3.0	18.8	
33 CML388//CML206	103	30	17	74.3	201	106	48	8	7	10	8	1.5	1.7	2.3	96	3.5	17.0	
28 LPSC4F273-2-2-3-BBB/CML206	105	32	17	74.8	193	103	48	11	10	7	4	3.5	1.8	2.3	54	3.2	17.1	
11 C																		

**TZONE99: Results of OPVs from CIMMYT adapted to the transition zone across eastern and southern Africa, 1998/99.**

Entry/Pedigree	Origin	Across		Across		Kitale Ken		Greytown RSA		Arusha Tan		Namulunge Uga		ART Farm Zim		Rwanda			
		%	Avg	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank		
15 CML202/CML312/CML206	CIMMYT	123	4.0	4.4	8.26	4.0	13.91	2	5.73	1	9.46	8	6.82	1	5.22	11	8.43	1	
4 [AC969A-SR(S1 of best Sn)]F2	CIMMYT	105	5.5	3.4	7.06	5.5	9.86	3	4.58	5	9.93	4	4.97	6	6.03	3	6.97	12	
2 [AC969A-SR(Sn of best FS)]F2	CIMMYT	101	6.3	4.0	6.83	6.3	8.63	10	3.65	12	10.33	2	4.97	7	5.84	4	7.57	3	
3 [AC969A-SR(FS of best Sn)]F2	CIMMYT	104	7.2	3.6	6.90	7.2	9.27	8	5.16	2	9.38	10	5.09	5	5.15	12	7.36	6	
8 [TZ969A(Sn)-SR]F2	CIMMYT	102	7.2	3.8	6.84	7.2	9.05	9	4.61	4	9.80	6	4.41	11	6.05	2	7.10	11	
6 [AC969A-SR(S3 of best Sn)]F2	CIMMYT	101	8.0	3.8	6.70	8.0	8.18	12	4.09	8	9.34	11	4.88	8	6.42	1	7.28	8	
11 [UG969A(FS)-SR]F2	CIMMYT	96	8.3	4.5	6.44	8.3	7.04	15	4.00	9	9.81	5	4.85	9	5.34	10	7.60	2	
1 [AC969A-SR(Best FS)]F2	CIMMYT	100	8.5	3.3	6.65	8.5	8.56	11	3.94	10	8.79	12	5.94	3	5.40	8	7.28	7	
7 [TZ969A(FS)-SR]F2	CIMMYT	102	8.5	6.8	6.98	8.5	9.85	4	3.50	15	10.58	1	6.29	2	4.85	15	6.80	14	
12 [UG969A(Sn)-SR]F2	CIMMYT	96	8.8	3.9	6.61	8.8	9.73	5	3.52	14	9.46	9	3.98	13	5.47	7	7.48	5	
5 [AC969A-SR(S2 of best Sn)]F2	CIMMYT	96	9.2	5.0	6.28	9.2	8.08	13	4.65	3	7.38	16	4.68	10	5.34	9	7.54	4	
9 [ET969A(FS)-SR]F2	CIMMYT	97	9.3	3.9	6.69	9.3	9.60	7	3.77	11	10.18	3	4.41	12	4.95	14	7.21	9	
16 LOCAL CHECK	various origins	105	10.0	6.8	7.41	10.0	15.10	1	3.45	16	9.57	7	5.81	4	4.66	16	5.86	16	
14 [MSR/POOL9A]C3F2-##	CIMMYT	90	11.3	4.2	5.93	11.3	7.22	14	4.39	7	7.59	15	3.93	14	5.61	5	6.84	13	
10 [ET969A(Sn)-SR]F2	CIMMYT	92	11.5	4.4	6.30	11.5	9.64	6	3.56	13	8.51	13	3.88	16	5.48	6	6.72	15	
13 [MSR/POOL9A]C2F3-#	CIMMYT	89	12.3	3.7	5.88	12.3	6.29	16	4.46	6	8.41	14	3.89	15	5.06	13	7.14	10	
Mean		100	8.5	4.4	6.73	8.5	9.38	9	4.19	9	9.28	9	4.93	9	5.43	9	7.20	9	
LSD (0.05)					0.75	2.91	1.18		2.02		1.86		0.00		0.88				
Min					3.3	5.88	4.0	6.29	1	3.45	1	7.38	1	3.88	1	4.66	1	5.86	1
Max					12.3	6.8	8.26	12.3	15.10	16	5.73	16	10.58	16	6.82	16	8.43	16	



Within a maturity group,  
colors that have no letter in  
common are different by at  
least one LSD.

LSDs were calculated from  
the mean square error that  
was pooled across sites.

**TZONE99: Results of OPVs from CIMMYT adapted to the transition zone across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across		Anth		Plant date	Ear height	Ear posit	Lodging		Husk cover	Ear rot	G.I.S	E turcic	MSV	Grain text	Grain moist
	Rel Gy	Rank	%	Avg	Stdev	d	cm	%	%	%	%	1-5	1-5	1-5	%	%
15 CML202/CML395/CML206	123	4.0	4.4	76.0	251	134	55	3	3	11	3	2.5	2.7	3.5	2.2	18.4
4 [AC969A-SR(S1 of best Sn)]F2	105	5.5	3.4	74.4	240	136	57	4	7	10	1.9	2.2	2.6	2.7	17.3	
2 [AC969A-SR(Sn of best FS)]F2	101	6.3	4.0	73.9	235	128	54	1	8	9	1.9	2.4	2.1	2.7	15.6	
3 [AC969A-SR(FS of best Sn)]F2	104	7.2	3.6	75.5	238	124	53	4	11	9	7	1.9	2.4	3.5	2.2	17.4
8 [TZ969A(Sn)-SR]F2	102	7.2	3.8	75.6	243	132	54	5	7	8	6	1.7	2.0	2.4	2.1	18.1
6 [AC969A-SR(S3 of best Sn)]F2	101	8.0	3.8	74.4	235	119	50	12	14	8	6	1.5	2.2	1.0	2.4	17.6
11 [UG969A(FS)-SR]F2	96	8.3	4.5	75.9	255	142	56	5	19	8	8	2.1	1.9	3.3	2.1	18.6
1 [AC969A-SR(Best FS)]F2	100	8.5	3.3	76.8	242	132	54	7	6	8	9	1.7	1.8	3.3	2.3	18.1
7 [TZ969A(FS)-SR]F2	102	8.5	6.8	76.0	248	131	53	5	8	7	7	1.8	2.2	3.1	2.3	18.1
96 8.8 3.9 75.8 235 128 54 9 6 13 8 1.6 2.1 2.2 2.7 16.9	96	9.2	5.0	72.8	244	128	52	6	7	9	5	1.5	2.1	2.4	2.4	17.2
5 [AC969A-SR(S2 of best Sn)]F2	97	9.3	3.9	75.9	250	139	56	3	10	8	8	2.0	2.0	3.3	2.3	17.7
9 [ET969A(FS)-SR]F2	105	10.0	6.8	73.2	333	215	64	10	21	5	5	3.6	2.5	3.2	1.7	18.2
16 LOCAL CHECK	90	11.3	4.2	75.5	246	132	54	6	15	11	9	2.3	2.4	1.6	2.6	16.8
14 [MSRPOOL9AC3F2##]	92	11.5	4.4	75.5	227	115	51	2	4	7	8	1.5	2.0	3.1	2.0	16.7
10 [ET969A(Sn)-SR]F2	89	12.3	3.7	73.4	255	130	52	6	17	10	9	2.5	2.4	2.9	2.6	17.5
13 [MSRPOOL9AC2F3#]																
Mean	100	8.5	4.4	75.0	249	135	54	6	10	9	7	2.0	2.2	2.7	2.3	17.5
LSD (0.05)				1.6	26	17	5	5	8	4	4	0.3	0.4	0.6	0.4	1.6
Min	89	4.0	3.3	72.8	227	115	50	1	3	5	3	1.5	1.8	1.0	1.7	15.6
Max	123	12.3	6.8	76.8	333	215	64	12	21	13	10	3.6	2.7	3.5	2.7	18.6

**Table 9: Results of elite inbred lines from CIMMYT across eastern and southern Africa, 1998/99. Caution: very large grain yields of inbred lines may result from outcrosses or volunteers. Other traits such as plant height, lodging and disease resistance would also likely be affected by the presence of full-vigor plants in place of inbred lines**

Entry Pedigree	Origin	Across	Rat GY	Rank	Acrea	Bktg Edt	NIA Nig	Grain Yield	Lodging Tan	Maturity Uga	Fall Arnold Zim	Ant	Plant	Env.	Height	Length	post			
	%	Avg	Sidev	Vha	Rank	Vha	Rank	Vha	Rank	Vha	Rank	d	cm	cm	%					
Inbred lines with antithesis data between 69 and 73 days																				
6 CML312	CIMMYT	149	15	12		0.55	29	0.26	31	0.18	25	0.64	27	1.00	32	75.9	132	59		
15 CML394	CIMMYT	70	23	9		0.78	23	0.73	18	0.26	29	0.58	6	0.77	10	0.61	30	75.6	126	
16 [MSRXPPOOL9]C1F2-1764-1-4-X-X-2-BB-2-1-BB	CIMMYT	57	26	5		0.66	26	0.20	32	0.32	25	0.46	21	1.18	20	1.12	30	72.7	58	
Inbred lines with antithesis data between 73 and 76 days																				
8 CML367	CIMMYT	54	27	6		0.55	29	0.26	31	0.18	25	0.64	27	1.00	32	75.9	132	59		
11 CML390	CIMMYT	85	18	9		0.93	19	0.71	19	0.58	6	0.77	10	0.61	30	1.78	28	75.6	126	
12 CML391	CIMMYT	172	14	9		2.35	10	6.16	1	0.49	11	1.00	6	1.77	11	2.35	21	75.6	147	
30 [EV7992#EV8449-SRIC1F2-334-1-4-X-X-2-BB8888	CIMMYT	116	14	10		1.34	16	0.59	26	0.44	16	1.20	4	0.90	28	3.58	4	73.2	128	
Inbred lines with antithesis data between 76 and 79 days																				
2 CML202	CIMMYT	96	16	9		1.30	16	0.69	20	0.24	30	0.64	12	1.93	10	2.98	10	78.4	129	
3 CML204	CIMMYT	81	22	13		1.13	23	0.56	27	0.22	32	2.48	3	1.27	29	77.6	138	76		
5 CML216	CIMMYT	97	18	12		1.42	16	2.49	2	0.49	12	0.25	31	1.94	8	1.95	27	78.2	138	
7 CML386	CIMMYT	115	13	7		1.36	15	0.65	24	0.43	18	0.71	11	2.31	5	2.70	16	76.1	121	
9 CML388	CIMMYT	91	18	7		1.12	18	1.20	7	0.39	23	0.43	23	1.33	17	2.27	22	77.5	154	
17 ZSR 923 S4BULK-2-S-X-X-X-1-BB-1-1-BB	CIMMYT	94	18	11		1.56	13	2.05	3	0.28	28	0.50	19	1.97	7	2.98	9	77.4	123	
18 [EV7992#EV8449-SRIC1F2-334-1-OSU9h-8-2](I)X-1-6-BB-1-1-BB	CIMMYT	96	16	7		1.22	15	1.30	5	0.47	14	0.54	15	1.13	24	2.64	17	78.8	153	
19 90323(8)-1-X-1-BB-1-1-BB	CIMMYT	85	19	7		1.07	22	0.80	15	0.32	26	0.29	28	1.06	25	2.87	14	77.7	150	
20 90323(B)-1-X-1-BB-2-1-BB	CIMMYT	114	13	9		1.27	15	1.43	4	0.44	15	0.32	27	1.14	22	3.04	8	77.7	158	
23 M37W/ZM605#0-19-2-X1-6-1-X-1-BBBB	CIMMYT	138	9	7		1.36	11	1.12	8	0.50	10	1.30	3	1.32	18	2.55	18	76.7	141	
24 MSR123 X(13)TN-6-3-X-1-1-BBBB	CIMMYT	138	13	8		1.52	13	0.98	9	0.41	20	2.34	2	2.34	2	2.36	20	76.6	140	
25 [EV7992#EV8449-SRIC1F2-334-1-OSU9h-8-2](I)X-1-5-BBBB	CIMMYT	119	11	6		1.40	13	0.96	10	0.41	19	0.54	14	2.24	6	2.85	15	77.4	145	
26 [B24S2XB810(3)-1-3]-X-14-2-3-X-BBBB	CIMMYT	79	23	10		1.23	21	0.35	30	0.39	22	0.29	29	3.08	1	2.07	25	77.6	159	
27 [EV7992#EVPOF44-SRB23#(F37)sr-2-3s-2-1-1-X-X-X-1-BBBB	CIMMYT	92	16	11		1.31	12	0.36	29	0.57	8	0.84	8	1.71	12	3.10	5	77.8	129	
28 IAC8342(IKENNE)(16)49SSR2#(PL94)#[6-3-4-2-X-3-BBBB	CIMMYT	148	9	9		1.61	12	0.85	12	0.37	24	0.51	17	2.49	2	3.83	3	77.4	154	
29 [MSR 131]-3-3-X-X-X-2-BB8888	CIMMYT	97	15	10		1.28	13	0.74	16	0.70	3	0.51	18	2.42	4	2.05	26	77.1	148	
31 [EV7992#EV8449-SRIC1F2-334-1-OSU9h-1-4-X-X-3-BBBB	CIMMYT	104	14	5		1.18	16	0.66	21	0.46	13	0.47	20	1.34	16	2.95	11	77.7	131	
33 [EV7992#EV8449-SRIC1F2-334-1-OSU9h-1-4-X-X-3-BBBB	CIMMYT	95	18	10		1.05	17	0.64	25	0.67	4	0.60	13	1.19	21	2.14	23	76.5	133	
Inbred lines with antithesis data between 79 and 82 days																				
1 CML197	CIMMYT	67	23	6		0.99	24	0.65	22	0.17	32	0.40	24	0.84	29	2.88	12	81.5	156	
4 CML206	CIMMYT	82	19	8		1.13	16	0.65	23	0.62	5	0.53	16	1.70	13	2.14	24	79.4	128	
10 CML389	CIMMYT	80	19	7		0.98	21	0.20	33	0.44	17	0.44	22	1.37	14	2.46	19	79.8	156	
13 CML392	CIMMYT	112	15	11		1.07	18	0.90	11	0.53	9	0.34	26	0.70	32	2.87	13	80.2	143	
14 CML393	CIMMYT	62	23	12		0.69	21	0.74	17	0.86	1	0.08	33	1.20	19	0.58	33	81.9	142	
21 90323(B)-1-X-3-BB-2-2-BB	CIMMYT	113	10	6		1.48	8	0.81	14	0.73	2	0.84	9	1.83	9	3.08	6	79.5	140	
22 90323(B)-1-X-5-BB-3-1-BB	CIMMYT	107	12	9		1.59	9	1.21	6	0.58	7	0.96	7	1.13	23	4.08	1	80.2	148	
32 [AC8232/NPPXSC/GWEBR(1)TZMISR-W#0#1-144-5-4-1-X-2-BBBB	CIMMYT	94	16	9		1.16	19	0.81	14	0.29	27	0.29	30	1.36	15	3.07	7	78.2	151	
Mean		100	17	9		1.24	17	0.99	17	0.45	17	0.71	17	1.52	17	2.50	17	77.2	144	
SD (0.05)																		70	47	
Min:		54	9	5		0.76	3.35	0.20	1	0.17	-1	0.08	1	0.70	1	0.56	1	69.0	110	
Max:		172	27	13		2.35	29	6.16	33	0.86	32	3.26	33	3.08	32	4.08	33	81.9	87	55

**EAI99:** Results of elite inbred lines from CIMMYT across eastern and southern Africa, 1998/99. Caution: very large grain yields of inbred lines may result from outcrosses or volunteers. Other traits such as plant height, lodging and disease resistance would also likely be affected by the presence of full-vigor plants in place of inbred lines.

Entity Pedigree	Actions		Lodging		Husk		MSV		Grain		Managed drought stress		Man. N gross								
	Ref GY	Rank	root	stem	husk cover	ear rot	Pucc	E	Chilo	Grain weevil	Grain text	Grain moist	Grain yield	ASI	EPP	Grain yield					
	%	Avg	StdDev	%	%	%	%	1-5	1-10	%	F1	1-5	%	Vha	Rank	d	Vha	Rank			
<b>Inbred lines with anthesis date between 68 and 73 days*</b>																					
6 CML312	149	15	12	6	4	20	13	2.3	2.2	3.5	54	3.9	13.0	0.35	19	8.3	0.75	2.38	5		
15 CML394	70	23	9	6	11	23	28	2.5	2.3	2.6	3.0	2.7	1.8	11.5	0.26	24	5.4	0.36	1.00	23	
16 [MSRXPOL9]C1F2-17<4-1-4>X-X-2-BB-2-1-BB	57	26	5	10	16	15	31	1.3	2.0	2.1	2.8	1.3	9	11.1	-	-	1.9	-	0.88	28	
<b>Inbred lines with anthesis date between 73 and 76 days*</b>																					
8 CML387	54	27	6	13	8	25	27	2.0	2.5	4.8	1.0	5	1.8	11.8	0.46	16	3.2	0.79	0.88	24	
11 CML390	85	18	9	8	4	21	15	1.6	1.5	2.3	3.3	1.0	7	1.0	11.6	0.40	17	0.1	0.84	1.24	17
12 CML391	172	14	9	7	10	21	11	1.8	1.3	2.8	4.8	1.0	18	0.9	10.8	0.32	22	1.8	0.67	0.91	25
30 [EV8449-SRIC1F2-334-1]OSU81-1-4-X-X-2-BBBB8	116	14	10	3	6	16	11	1.5	3.0	2.1	3.0	1.0	3	1.0	11.6	1.03	4	5.6	0.86	1.25	16
<b>Inbred lines with anthesis date between 76 and 79 days*</b>																					
2 CML202	96	16	9	9	4	12	13	2.1	1.8	1.9	4.2	1.7	14	2.5	11.7	0.26	23	1.8	0.83	2.33	6
3 CML204	81	22	13	24	20	36	31	4.4	1.8	2.2	3.5	1.9	2	3.8	10.5	0.82	7	-0.2	0.6	0.37	33
5 CML216	97	18	12	18	12	10	17	3.0	1.8	2.5	3.5	2.1	21	1.6	12.0	0.00	31	8.3	0.15	1.16	18
7 CML386	115	13	7	4	6	18	25	1.6	2.0	2.5	3.8	2.6	17	2.3	11.5	0.57	13	-0.7	0.96	2.54	3
9 CML388	91	18	7	4	4	14	21	1.5	1.8	2.7	4.2	1.2	18	1.4	9.7	0.64	10	2.4	1.00	1.05	21
17 ZSR 923 S4BULK-2-2-X-X-X-X-1-BB-1-1-BB	94	18	11	4	3	14	18	2.1	1.5	3.0	2.8	3.6	7	1.6	12.7	0.13	28	3.8	0.59	0.69	29
18 [EV79822#EV8449-SRIC1F2-334-1]OSU91-8-2(1)X-1-6-B3 1-1-BB	96	16	7	6	5	13	13	1.4	1.8	2.3	4.5	1.1	20	2.1	11.4	0.63	11	2.8	1.07	0.89	26
19 90333(B)-1-X-1-BB-1-1-BB	85	19	7	9	7	18	28	2.2	1.5	2.1	3.7	2.0	58	2.4	13.2	0.46	15	12.8	0.86	1.88	10
20 90333(B)-1-X-1-BB-2-1-BB	114	13	9	6	5	12	11	1.8	1.4	2.3	4.0	1.7	48	1.5	13.5	0.96	5	3.9	0.84	1.88	11
23 M37WNZM605#D-19-2-X-1-X-1-BBBB8	138	9	7	11	5	16	43	2.1	1.5	3.2	2.0	14	2.7	11.5	1.06	3	3.5	0.17	2.39	4	
24 MSR123 X 1137TN4-3-1-X-1-BBBB8	138	13	8	19	7	23	22	2.9	2.0	1.9	5.7	2.7	17	2.2	13.2	0.40	18	6.2	0.57	2.01	7
25 [EV79822#EV8449-SRIC1F2-334-1]OSU91-8-2(1)X-1-5-BBBB8	119	11	6	8	3	21	15	1.5	1.8	2.7	5.3	0.9	22	1.3	11.5	1.09	2	0.9	0.97	1.42	14
26 [B24S2XBS19(3)-1-3]-X-14-2-3-X-BBBB8	79	23	10	3	4	16	12	1.4	1.4	2.4	4.0	3.1	14	3.6	11.3	0.22	25	2.0	0.43	0.89	27
27 [EV79822#EVPOF44-SRB23#P#F37sr-2-3s-2-1-X-X-X-1-BBBB8	92	16	11	2	4	8	19	3.2	1.8	2.8	3.2	2.8	26	2.7	11.4	0.47	31	-0.47	3.1	-0.47	31
28 [AC8321KENNE18149SR2/P/L9]#D-34-2-X-3-BBBB8	148	9	9	2	4	28	26	1.6	1.8	2.7	4.0	2.3	13	4.9	15.4	1.50	1	-2.2	1.03	2.80	2
29 [MSR131]-3-3-X-X-X-2-BBBB8	97	15	10	4	20	9	16	1.8	2.5	3.0	3.0	1.4	18	1.1	12.2	0.12	29	11.7	0.19	1.64	12
31 [EV79822#EV8449-SRIC1F2-334-1]OSU81-1-4-X-X-4-BBBB8	104	14	5	9	16	13	20	1.4	3.0	2.0	4.5	1.1	11	1.2	9.7	0.80	8	-0.3	0.81	1.88	9
33 [EV79822#EV8449-SRIC1F2-334-1]OSU81-1-4-X-X-3-BBBB8	95	18	10	7	5	27	13	1.2	2.8	2.1	6.3	1.0	22	1.5	11.0	0.93	6	1.5	0.86	0.38	32
<b>Inbred lines with anthesis date between 79 and 82 days*</b>																					
1 CML197	67	23	6	9	4	15	23	2.6	2.0	3.3	5.5	2.8	27	1.4	13.0	0.33	21	5.6	1.06	1.31	20
4 CML206	82	19	8	13	6	16	13	2.3	2.0	2.7	4.0	2.8	11	1.9	11.7	0.15	27	10.9	0.43	1.04	22
10 CML389	80	19	7	4	14	19	13	1.3	2.0	2.0	4.0	1.1	11	1.1	10.4	0.62	12	1.4	0.93	1.12	19
13 CML392	112	15	11	6	3	12	16	2.2	2.3	1.9	3.8	1.3	3	3.2	13.0	0.57	14	3.1	0.84	3.74	1
14 CML393	62	23	12	5	11	16	2.1	1.0	2.2	4.3	0.9	16	1.1	11.0	0.06	30	8.7	0.42	0.61	30	
21 90333(B)-1-X-3-BB-2-2-BB	113	10	6	1	7	15	10	2.1	1.8	2.0	6.3	1.6	49	2.6	13.5	0.34	20	9.4	0.44	1.64	13
22 90333(B)-1-X-5-BB-3-1-BB	107	12	9	17	4	15	17	1.8	1.5	1.8	4.5	2.1	19	2.5	13.3	0.19	26	3.4	0.39	1.34	15
32 [AC8321NPXSC/GWE1(1)TZMSR-WH]#D-144-5-1-X-2-BBBB8	94	16	9	9	18	32	42	2.4	2.0	2.8	3.2	2.5	29	1.6	10.9	0.66	9	2.7	0.91	1.93	8
Mean	100	17	9	8	7	18	20	2.1	1.9	2.4	4.1	1.9	19	2.0	11.9	0.53	16	4.0	0.74	1.45	17
LSD (0.05)																					
Min	54	9	5	1	3	8	10	1.2	1.0	1.8	2.8	0.9	2	0.9	9.7	0.00	1	-2.2	0.15	0.37	1
Max	172	27	13	24	20	36	43	4.4	3.0	3.3	6.3	3.6	58	4.9	15.4	1.50	31	12.8	1.17	3.74	33

**EPOPP99: Results of early and intermediate maturing OryVs from CIMMYT, Malawi, Tanzania, and South Africa across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across										Grain yield - Lowlands									
	Rel GY		Rank		Across		Balka Mal		Chitima Mal		Mutarara Mal		SEMOC Moz		Tele Moz		Umbeluzi Moz		Ulonga Tan	
%	Avg	Sdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank
<b>OryVs with anthesis date between 54 and 57 days</b>																				
5 297EWB-F2/Z27EWB-F2	101	12	5	3.33	4	6.05	6	2.95	19	3.23	14	4.66	14	1.89	13	3.93	10	2.60	17	
10 [E4SLY-MID-1]KATUMANI-SR1#	98	13	6	3.18	14	4.51	22	3.43	13	2.43	22	4.25	21	1.99	9	3.45	20	2.44	19	
3 297EWB-F2#	94	15	6	3.23	14	5.23	18	2.64	20	2.90	19	5.24	7	1.76	17	3.93	9	2.25	22	
4 297EWB-F2#	92	15	6	2.97	18	4.42	23	2.52	21	2.51	21	5.12	10	1.79	16	3.73	14	2.23	23	
<b>OryVs with anthesis date between 57 and 59 days</b>																				
12 ZMM21 = SAVVE F1	119	5	3	3.71	7	5.69	10	3.92	6	3.58	6	5.24	8	2.39	4	4.56	4	2.96	5	
5 ZMA03 = [EARLY-MID-2/PL16-SR1]#	105	10	5	3.60	9	5.53	13	4.06	4	3.51	7	5.12	9	1.82	15	3.68	15	3.44	2	
8 [TEWD-SRDRTOLSYN/[NAV5867/P30-SR(S2#)]]]#	100	12	5	3.38	12	5.25	17	2.96	18	3.46	8	4.65	15	2.05	7	4.22	7	2.63	15	
1 ZMM21	103	12	5	3.48	10	5.37	16	3.76	7	3.42	10	4.38	19	1.87	14	3.79	12	3.36	3	
15 DTP1-W CG SEL PRECOZ F3	104	14	7	3.18	16	5.51	14	3.12	17	2.08	24	4.02	22	1.75	18	4.57	3	2.73	12	
11 [VAR:TEMP@HILANDPOP]##	95	14	6	3.10	16	4.63	21	3.21	15	2.92	18	3.63	24	1.91	12	3.56	17	2.93	7	
9 IEV792/POOL16-SR#SS1SEL-F3	95	14	5	3.39	13	5.62	12	3.74	8	3.33	13	4.60	16	1.69	20	4.17	8	3.02	4	
18 KATUMANI-ST#	96	16	6	3.44	13	5.83	9	3.58	10	3.71	4	4.38	20	1.64	21	3.84	16	2.19	24	
16 PGQ16 BNSEQ C1 F2	88	17	6	2.93	18	4.87	20	2.49	22	2.37	23	4.45	17	1.99	8	3.76	13	2.47	18	
7 [DNR@SR-W#b](EARLY SEL) #	90	17	5	3.02	17	5.44	15	2.47	23	3.44	9	3.69	23	2.07	6	3.30	22	2.28	21	
<b>OryVs with anthesis date between 59 and 62 days</b>																				
13 ZM521 = $\begin{cases} \text{SADV1 F1} \\ \text{SADV12 F1} \end{cases}$	127	3	2	4.23	2	6.44	4	4.81	1	4.50	2	5.98	4	2.67	2	4.70	2	3.56	1	
14 ZM521 = $\begin{cases} \text{SADV1 F1} \\ \text{SADV12 F1} \end{cases}$	124	5	4	3.98	5	6.04	7	4.53	2	4.96	1	5.09	11	2.60	3	4.92	1	2.78	11	
17 MAJINDIR#	95	13	7	3.40	12	5.65	11	4.25	3	3.17	16	4.42	18	2.15	5	3.40	21	2.94	6	
2 GRACE (EWF-2) #	98	13	6	3.54	12	5.33	8	3.62	9	3.38	12	5.98	3	1.49	22	3.86	11	2.61	16	
24 LOCAL CHECK 3	102	14	8	3.09	17	5.17	19	3.13	16	3.18	15	4.98	12	1.75	19	3.16	24	2.80	10	
23 LOCAL CHECK 2	90	15	7	3.19	17	6.09	5	3.49	12	2.56	20	5.89	5	1.30	23	3.28	23	2.88	8	
22 LOCAL CHECK 1	91	16	8	3.09	18	4.08	24	2.35	24	3.06	17	6.11	1	1.19	24	3.45	19	2.72	13	
19 KITO-ST#	88	16	6	3.47	12	6.66	2	3.32	14	3.60	5	4.87	13	1.95	11	3.51	18	2.31	20	
<b>OryVs with anthesis date between 63 and 64 days</b>																				
21 SYNTHETIC-NUE-SR#	103	8	7	3.89	6	6.80	4	3.97	5	3.77	3	5.99	2	1.97	10	4.33	6	2.63	14	
20 SYNTHETIC-DR-SR#	102	10	7	3.85	8	6.59	3	3.57	11	3.39	11	5.66	6	3.11	1	4.42	5	2.84	9	
Mean	100	12	6	3.40	13	5.66	13	3.40	13	3.27	13	4.93	13	1.95	13	3.89	13	2.73	13	
LSD (0.05)				0.26	0.89	0.93		1.24		1.00		0.51		0.77		0.77		0.76		
Min	88	3	2	2.93	2	4.08	1	2.35	1	2.08	1	3.63	1	1.19	1	3.16	1	2.19	1	
Max	127	17	8	4.23	18	6.80	24	4.61	24	4.96	24	6.11	24	3.11	24	4.92	24	3.56	24	

**EPOP99: Results of early and intermediate maturing OPVs from CIMMYT, Malawi, Tanzania, and South Africa across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across		Grain yield - Lowlands						Grain yield - Midaltitudes eastern Africa										
	Region		Karin Tan		Mlingano Tan		Msekera Zam		Makoholi Zim		Across		Bako Eth		Mwapa Ken		Namuonge Uga		
	%	Avg	Sdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank
<b>OPVs with anthesis date between 54 and 57 days</b>																			
5 Z97EWA-F2/Z97EWB-F2	101	12	5	2.56	16	5.04	16	1.45	12	2.25	15	3.13	18	4.83	21	2.27	12	2.28	21
10 [EARLY-MID-1/KATUMANI-SR]-#	98	13	6	3.20	5	5.14	15	1.51	6	2.65	5	3.76	14	6.06	16	2.31	10	2.91	16
3 Z97EWA-F2-#	94	15	6	2.94	9	4.58	19	1.52	4	2.51	8	3.38	18	5.29	19	2.16	17	2.70	17
4 Z97EWB-F2-#	92	15	6	2.06	23	4.52	20	1.18	22	2.57	7	3.29	15	4.40	23	2.50	6	2.97	15
<b>OPVs with anthesis date between 57 and 59 days</b>																			
12 ZM421 = SADVE F1	119	5	3	2.88	10	5.53	8	1.58	2	2.50	9	4.22	8	6.15	12	2.65	5	3.87	6
6 ZM303 = [EARLY-MID-2/PL16-SR]-#	105	10	5	3.10	6	5.21	13	1.46	11	2.67	4	3.91	12	5.91	17	2.38	8	3.45	10
8 [TEWD-SRDRTOLSYN](NAV5867/P30-SR(S2#))##	100	12	5	2.76	13	5.21	14	1.48	9	2.46	11	4.00	13	6.13	14	2.17	16	3.70	8
1 ZM301	103	12	5	3.08	7	5.25	11	1.52	5	2.46	10	3.57	12	4.49	22	2.79	4	3.44	11
15 DTP1-W C6 SEL.. PRECOZ F3	104	14	7	2.80	11	4.90	17	1.33	19	1.04	21	3.63	16	6.87	9	2.21	15	1.82	24
11 [VARTEMPHILLANDPOP]##	95	14	6	2.51	16	5.35	9	1.50	8	1.92	23	4.16	13	6.74	10	2.08	19	3.65	9
9 EV7992/POOL16-SR)##S1SEL-F3	95	14	5	2.60	15	4.75	18	1.39	16	2.37	14	3.83	12	6.14	13	2.34	9	3.00	14
16 KATUMANI-ST-#	96	16	6	2.86	8	6.50	1	1.40	13	2.07	19	3.74	17	5.98	16	1.91	23	3.33	12
17 POOL16 BNSEQ C1 F2	88	17	6	2.18	20	4.44	21	1.17	23	2.06	18	3.18	21	5.50	18	1.64	24	2.40	20
7 [DMRESR-W]#b(EARLY SEL-)##	90	17	5	2.51	19	4.27	23	1.39	15	2.41	12	3.23	18	5.17	20	2.26	13	2.27	22
<b>OPVs with anthesis date between 59 and 62 days</b>																			
13 ZMS21 = { SADVI1 F1	127	3	2	3.77	1	5.88	2	1.67	1	2.81	2	5.28	3	8.10	5	3.07	1	4.67	3
14 ZMS21 = { SADVI2 F1	124	5	4	3.24	4	5.20	10	1.54	3	2.75	3	5.17	3	8.72	3	2.90	2	3.88	5
17 MATINDIRI#	95	13	7	2.08	22	5.74	4	1.50	7	2.06	20	4.33	12	6.70	11	2.04	20	4.24	4
2 GRACE (EWF-2)-#	98	13	6	2.79	12	5.54	7	1.38	17	2.41	13	4.48	9	8.03	6	2.79	3	2.64	19
24 LOCAL CHECK 3	102	14	8	1.73	24	4.03	24	1.08	24	2.95	1	3.99	17	8.02	7	1.93	22	2.02	23
23 LOCAL CHECK 2	90	15	7	2.10	21	4.44	22	1.26	21	1.82	24	4.36	13	8.25	4	2.15	18	2.68	18
22 LOCAL CHECK 1	91	16	8	2.56	17	5.24	12	1.32	20	1.94	22	3.29	16	4.37	24	2.29	11	3.23	13
19 KITO-ST-#	88	16	6	2.66	14	5.71	5	1.36	18	2.22	16	4.45	12	7.67	8	1.98	21	3.70	7
<b>OPVs with anthesis date between 63 and 64 days</b>																			
21 SYNTHETIC-NJE-SR#	103	8	7	3.50	2	5.70	6	1.46	10	2.63	5	5.34	3	8.77	2	2.45	7	4.80	1
20 SYNTHETIC-DR-SR#	102	10	7	3.49	3	5.85	3	1.39	14	2.09	17	5.25	6	8.86	1	2.22	14	4.68	2
Mean	100	12	8	2.75	13	5.17	13	1.41	13	2.36	13	4.04	13	6.55	13	2.31	13	3.26	13
LSD 0.05%				1.96	0.73	0.19		0.19		0.61		0.68		1.98	0.67			1.22	
Min	88	3	2	4.03	1	4.08	1	1.82	1	3.13	3	4.37	1	1.64	1	1.82	1	4.80	24
Max	127	17	8	3.77	24	6.50	24	1.67	24	2.96	24	5.34	21	8.86	24	3.07	24	4.80	24

**EPOP99: Results of early and intermediate maturing OPVs from CIMMYT, Malawi, Tanzania, and South Africa across eastern and southern Africa, 1998/99.**

Entry/Pedigree	Across		Rel GY		Across		Greytown RSA		Grain yield - Midlatitudes southern Africa		Glendale Zim		Rwanda Zim	
	%	Avg	Sdev	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank
<b>OPVs with anthesis date between 54 and 57 days</b>														
5 29TEWA-F2/297EWB-F2	101	12	5	4.64	13	4.44	8	3.89	14	6.15	13	4.12	15	
10 [EARLY-MID-1]KATUMANI-SR]-#	98	13	6	5.00	10	4.00	14	4.86	8	6.76	7	4.35	9	
3 29TEWA-F2-#	94	15	6	4.45	13	4.66	5	3.88	15	5.22	17	4.03	16	
4 297EWB-F2-#	92	15	6	4.04	20	3.72	21	3.70	17	5.02	19	3.71	21	
<b>OPVs with anthesis date between 57 and 59 days</b>														
12 2[W42] ≈ SADVE F1	119	5	3	5.19	7	4.56	6	4.91	6	6.53	8	4.74	7	
6 ZM303 = [EARLY-MID-2]PL16-SR]-#	105	10	5	5.15	8	4.93	4	4.77	9	6.29	12	4.59	8	
8 [TE]WD-SRDRTOLSYN[NAW5867]P30-SR(S2#)]##	100	12	5	4.51	13	4.09	11	3.97	12	5.84	16	4.14	14	
1 ZM301	103	12	5	4.40	15	3.99	15	4.53	10	5.22	18	3.86	18	
15 DTP1-W C6 SEL. PRECOZ F3	104	14	7	4.30	17	3.83	18	3.36	19	6.47	9	3.55	22	
11 [VARTEMP:HILANDPOP]##	95	14	6	5.07	8	4.34	9	5.23	3	6.43	10	4.29	11	
9 [EV7992]P00L16-SR]#S1SEL-F3	95	14	5	4.20	18	3.38	24	2.81	22	6.42	11	4.18	13	
18 KATUMANI-ST-#	96	16	6	4.27	15	4.51	7	3.98	11	4.89	21	3.72	20	
16 POOL16 BNSEQ C1-T2	88	17	6	3.55	22	3.98	16	2.70	24	4.57	23	2.94	24	
7 [DMRESR-W]#b(EARLY SEL)-#	90	17	5	3.82	21	3.80	19	2.94	21	5.02	20	3.54	23	
<b>OPVs with anthesis date between 59 and 62 days</b>														
13 ZM521 = { SADV11 F†	127	3	2	6.03	3	5.33	3	6.08	2	7.06	4	5.65	2	
14 SADV12 F1	124	5	4	6.23	2	6.38	1	6.25	1	7.23	3	5.05	4	
17 MATINDIRI-#	95	13	7	4.43	15	4.05	12	3.84	16	5.89	15	3.94	17	
2 GRACE (EWF-2)-#	98	13	6	4.24	18	3.79	20	3.27	20	6.06	14	3.85	19	
24 LOCAL CHECK 3	102	14	8	4.76	13	3.41	23	3.66	18	7.65	2	4.31	10	
23 LOCAL CHECK 2	90	15	7	5.49	7	4.01	13	4.88	7	8.13	1	4.94	5	
22 LOCAL CHECK 1	91	16	8	4.24	17	3.58	22	2.78	23	4.63	22	5.97	1	
19 KITO-ST-#	88	16	6	4.14	17	3.85	17	3.95	13	4.55	24	4.19	12	
<b>OPVs with anthesis date between 63 and 64 days</b>														
21 SYNTHETIC-NUE-SR-#	103	8	7	5.73	4	5.40	2	5.16	4	6.77	6	5.59	3	
20 SYNTHETIC-DR-SR-#	102	10	7	5.30	7	4.13	10	5.15	5	7.02	5	4.91	6	
Mean	100	12	8	4.72	13	4.26	13	4.19	13	6.08	13	4.34	13	
LSD (0.05)				0.35		1.43		0.86		1.48		0.76		
Min	88	3	2	3.55	2	3.38	1	2.70	1	4.55	1	2.94	1	
Max	127	17	8	6.23	22	6.38	24	6.25	24	8.13	24	5.97	24	

**EPO99: Results of early and intermediate maturing OPVs from CIMMYT, Malawi, Tanzania, and South Africa across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across		Grain yield - Managed and random drought stress										Mean	Mornumb. Moz	Melpuit RSA				
	Ref GY	Rank	Across		Mazozo Aug	Goodhope Bot	Pandamat. Bot	Sebela Bot	Chitata Mal	Mornumb. Mal	t/ha	Rank							
%	Avg	Stdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank							
<b>OPVs with anthesis date between 54 and 57 days</b>																			
5 Z97EWB-F2/Z97EWB-F2	101	12	5	2.61	8	2.15	8	2.01	2	2.06	5	0.08	14	5.80	3	2.79	10	3.03	19
10 [EARLY-MID-1]KATUMANI-SR#	98	13	6	2.57	12	1.48	14	1.95	3	1.67	16	0.06	77	5.83	2	2.00	22	3.61	6
3 Z97EWB-F2#	94	15	6	2.44	14	2.65	3	1.28	17	1.71	14	0.06	16	4.54	7	2.20	19	3.07	18
4 Z97EWB-F2#	92	15	6	2.51	10	1.60	12	1.56	15	2.10	4	0.08	11	4.26	9	3.06	5	3.35	14
<b>OPVs with anthesis date between 57 and 59 days</b>																			
12 ZM421 = SADVE F1	119	5	3	3.15	3	2.68	2	2.07	1	1.96	10	0.14	5	6.08	1	3.15	3	4.76	1
6 ZM303 = [EARLY-MID-2]PL16-SR]#	105	10	5	2.33	12	1.33	15	1.77	4	1.94	11	0.09	10	3.61	17	2.51	15	2.98	20
8 [TEWD-SRDRTOLSYN NAW586 TP30-SR(S2#)]##	100	12	5	2.56	10	1.75	11	1.77	5	2.00	9	0.08	12	4.45	8	3.38	1	3.68	9
1 ZM301	103	12	5	2.64	10	2.64	4	1.69	8	1.54	19	0.13	6	4.96	5	2.71	12	3.53	12
15 DTP1-W C6 SEL PRECOZ F3	104	14	7	2.60	10	3.34	1	1.75	7	2.06	6	0.22	3	4.09	12	2.59	14	3.33	16
11 [VAR/TEMP/HILANDPOP]##	95	14	6	2.28	16	2.36	6	1.60	11	1.42	21	0.05	20	3.53	19	1.81	23	3.35	15
9 [EV7992]POOL16-SR BS1SEL-F3	95	14	5	2.32	16	2.31	7	1.69	9	1.41	22	0.04	22	3.57	18	2.78	11	3.53	11
18 KATUMANI-ST#	96	16	6	2.28	16	1.59	13	1.49	16	1.63	18	0.19	4	4.73	6	2.19	20	2.90	22
16 POOL16 BNSEQ C1 F2	88	17	6	2.50	10	1.20	16	1.59	12	2.22	2	0.08	14	4.17	10	2.82	9	3.65	10
7 [DMRESR-W]b(EARLY SEL)##	90	17	5	2.13	17	0.95	20	1.04	23	1.93	12	0.12	7	3.63	16	2.47	16	3.24	17
<b>OPVs with anthesis date between 59 and 62 days</b>																			
13 ZM521 = {SADV1 F1 SADV12 F1	127	3	2	2.91	5	2.44	5	1.63	10	2.61	1	0.08	12	4.98	4	3.13	4	3.97	3
14 ZM521 = {SADV1 F1 SADV12 F1	124	5	4	2.74	5	1.94	10	1.75	6	2.04	7	0.24	1	3.84	13	2.92	8	4.01	2
17 MATINDRI#	95	13	7	2.12	16	0.72	21	1.11	21	2.16	3	0.04	23	3.07	21	3.06	6	2.96	21
2 GRACE (EWF-2)##	98	13	6	2.42	12	2.11	9	1.57	13	1.66	17	0.11	9	3.76	14	2.43	17	3.75	7
24 LOCAL CHECK 3	102	14	8	2.40	11	1.10	17	1.57	14	1.26	23	0.23	2	4.10	11	3.04	7	3.51	13
23 LOCAL CHECK 2	90	15	7	1.94	18	0.33	23	1.18	19	1.49	20	0.06	18	2.54	23	2.00	21	3.70	8
22 LOCAL CHECK 1	91	16	8	2.26	13	0.70	22	1.26	18	2.01	8	0.11	8	2.81	22	2.41	18	3.86	4
19 KITO-ST#	88	16	6	1.82	21	1.10	18	1.05	22	1.25	24	0.04	21	3.63	15	1.78	24	2.12	24
<b>OPVs with anthesis date between 63 and 64 days</b>																			
21 SYNTHETIC-NUE-SR#	103	8	7	1.97	17	0.33	24	1.14	20	1.71	15	0.02	24	2.14	24	3.37	2	3.89	5
20 SYNTHETIC-DR-SR#	102	10	7	2.07	17	1.04	19	0.89	24	1.74	13	0.06	18	3.27	20	2.61	13	2.30	23
Mean	100	12	6	2.41	12	1.66	13	1.52	13	1.81	13	0.10	12	4.06	13	2.63	13	3.43	13
LSD (0.05)				0.29		1.27		0.45		0.55		0.10		1.21		0.99		0.84	
Min	88	3	2	1.82	3	0.33	1	0.89	1	1.25	1	0.02	1	2.14	1	1.78	1	2.12	1
Max	127	17	8	3.15	21	3.34	24	2.07	24	2.61	24	0.24	24	6.09	24	3.38	24	4.76	24

**EPOP99: Results of early and intermediate maturing OPVs from CIMMYT, Malawi, Tanzania, and South Africa across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across				Drought stress				Grain yield - Managed N stress									
	Rel GY	Rank	Arusha Tan		Chiredzi/Zim		Across				Mazoez Ang		Sussund. Moz		CIMMYT Zim		DR&SS Zim	
			%	Avg	Sdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha
<b>OPVs with anthesis date between 54 and 57 days</b>																		
5	Z97EWB-F2/Z97EWB-F2	101	12	5	3.79	5	3.56	4	1.91	12	2.07	12	2.42	17	1.36	15	1.77	5
10	[EARLY-MID-1]KATUMANI-SR]#	98	13	6	3.22	19	3.14	12	1.78	15	1.96	16	2.49	13	1.35	16	1.34	14
3	Z97EWB-F2#	94	15	6	3.22	19	3.16	10	1.67	19	1.97	15	2.31	22	1.14	20	1.27	17
4	Z97EWB-F2#	92	15	6	3.24	16	3.34	5	1.75	15	2.08	11	2.47	15	1.52	12	0.93	23
<b>OPVs with anthesis date between 57 and 59 days</b>																		
12	ZM421 = SADVE F1	119	5	3	3.87	4	3.65	2	2.44	4	2.37	3	2.55	8	2.19	2	2.65	2
6	ZM303 = [EARLY-MID-2/PL16-SR]-#	105	10	5	3.57	7	3.18	9	2.19	6	2.15	10	2.56	7	2.13	4	1.92	4
8	[TEWD-SRDRTOLSYN [NAW5867/P30-SR(S2#)]]]##	100	12	5	3.14	22	2.81	15	1.85	12	2.04	13	2.50	11	1.65	7	1.20	18
1	ZM301	103	12	5	3.43	13	3.15	11	1.74	16	1.84	18	2.23	23	1.57	9	1.34	13
15	DTP-1-W/C6 SEL, PRECOZ F3	104	14	7	3.24	18	2.77	16	2.13	9	2.34	4	2.32	20	2.12	5	1.75	6
11	[VARTEMP:HILANDPOP]##	95	14	6	3.29	15	2.94	13	1.76	16	2.15	9	2.37	19	1.22	18	1.28	16
9	[EV7982/POOL16-SR]#bs1SEL-F3	95	14	5	2.87	23	2.65	19	1.77	15	2.24	6	2.40	18	1.38	14	1.06	22
18	KATUMANI-ST-#	96	16	6	3.21	21	2.61	21	1.50	21	1.45	24	2.45	16	0.94	24	1.19	20
16	POOL16 BNSEQ C1 F2	88	17	6	3.60	11	3.25	8	1.69	18	1.82	20	2.09	24	1.24	17	1.61	9
7	[DMRESR-W]#bs(EARLY SEL)-#	90	17	5	3.24	17	2.53	22	1.89	11	2.16	8	2.49	14	1.55	10	1.38	12
<b>OPVs with anthesis date between 59 and 62 days</b>																		
13	ZM521 = $\begin{cases} \text{SADV11 F1} \\ \text{SADV12 F1} \end{cases}$	127	3	2	4.05	3	3.27	6	2.62	3	2.19	7	2.70	2	2.18	3	3.43	1
14	SADV12 F1	124	5	4	4.14	1	3.76	1	2.31	4	2.93	1	2.72	1	1.91	6	1.66	8
17	MATINDRI-#	95	13	7	3.73	6	2.21	23	1.97	9	2.58	2	2.60	5	0.99	23	1.71	7
2	GRACE (EWF-2)-#	98	13	6	3.56	8	2.87	14	1.61	19	1.74	22	2.49	12	1.14	19	1.06	21
24	LOCAL CHECK 3	102	14	8	3.56	9	3.25	7	2.24	8	1.86	17	2.51	10	2.21	1	2.38	3
23	LOCAL CHECK 2	90	15	7	3.42	14	2.74	17	1.76	14	1.58	23	2.68	4	1.49	13	1.31	15
22	LOCAL CHECK 1	91	16	8	3.54	10	3.56	3	1.74	14	1.84	18	2.70	3	1.55	11	0.89	24
19	KITO-ST-#	88	16	6	2.75	24	2.63	20	1.61	20	1.82	20	2.32	21	1.10	21	1.20	19
<b>OPVs with anthesis date between 63 and 64 days</b>																		
21	SYNTHETIC-NUE-SR#	103	8	7	3.45	12	1.69	24	2.01	8	2.34	5	2.52	9	1.65	8	1.55	10
20	SYNTHETIC-DR-SR#	102	10	7	4.09	2	2.65	18	1.79	13	2.00	14	2.58	6	1.08	22	1.48	11
Mean		100	12	6	3.46	12	2.97	13	1.91	12	2.06	12	2.48	13	1.53	13	1.56	13
LSD (0.05)		88	3	2	2.75	1	1.69	1	0.30	0.38	0.27	0.27	0.41	1	0.94	1	0.49	1
Min		127	17	8	4.14	24	3.76	24	2.62	21	2.93	24	2.72	24	2.21	24	3.43	24

**EPOP99: Results of early and intermediate maturing OPVs from CIMMYT, Malawi, Tanzania, and South Africa across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across			Drought			Low N				
	Rel GY		Rank	ASI		EPP	LR	Sensac	ASI	EPP	Senesc
	%	Avg	Stdev	d			1-5	1-10	d		1-10
<b>OPVs with anthesis date between 54 and 57 days</b>											
5 Z97EWA-F#Z97WB-F2	101	12	5	3.0	0.93	3.4	7.2	5.3	0.90	7.1	
10 [EARLY-MID-1/KATUMANI-SR]#	98	13	6	3.6	0.83	3.5	6.8	5.1	0.83	7.0	
3 Z97EWA-F2#	94	15	6	1.9	0.84	3.7	7.2	4.0	0.87	7.2	
4 Z97EWB-F2#	92	15	6	3.5	0.88	3.9	7.1	6.3	0.84	7.2	
<b>OPVs with anthesis date between 57 and 59 days</b>											
12 ZN421 = SADVE F1	119	5	3	2.2	0.88	3.0	6.4	2.4	0.93	6.4	
6 ZM303 = [EARLY-MID-2/PL16-SR]#	105	10	5	4.2	0.83	3.5	6.7	3.3	0.92	6.6	
8 [TEWD-SRDRTOLSN/[NAME5867/P30-SR(S2#)]##]	100	12	5	3.0	0.89	3.5	6.9	3.2	0.90	6.8	
1 ZM301	103	12	5	2.2	0.84	2.8	6.4	4.4	0.90	6.9	
15 DTP1-W C6 SEL. PRECOZ F3	104	14	7	1.9	0.91	3.6	6.7	3.0	0.96	6.7	
9 [VARTEMP-HILANDFOP]##	95	14	6	3.0	0.79	3.6	6.8	3.5	0.89	7.0	
11 [VARTEMP-HILANDFOP]##	95	14	5	2.8	0.87	3.9	7.3	3.3	0.90	6.7	
9 [EV7992/POOL16-SR]#S1SEL F3	96	16	6	3.0	0.75	3.7	6.7	3.9	0.86	6.8	
18 KATUMANI-ST#	88	17	6	2.5	0.86	3.9	7.5	3.9	0.91	6.9	
16 POOL 16 BNSEQ C1 F2	90	17	5	2.7	0.82	3.8	6.9	3.3	0.88		
7 [DMRESR-W]#b(EARLY SEL)##											
<b>OPVs with anthesis date between 59 and 62 days</b>											
13 ZNS21 = $\begin{cases} \text{SADV11 F1} \\ \text{SADV12 F1} \end{cases}$	127	3	2	4.1	0.89	3.1	5.8	2.9	0.94	5.6	
14 ZNS21 = $\begin{cases} \text{SADV11 F1} \\ \text{SADV12 F1} \end{cases}$	124	5	4	2.4	0.85	3.5	6.3	1.8	0.96	6.1	
17 MATINDRI#	95	13	7	4.3	0.78	3.8	6.7	3.7	0.91	6.8	
2 GRACE (EWF-2)##	98	13	6	3.0	0.77	3.6	6.5	4.6	0.86	6.8	
24 LOCAL CHECK 3	102	14	8	2.8	0.76	4.0	7.1	3.8	0.90	6.3	
23 LOCAL CHECK 2	90	15	7	3.5	0.74	4.1	6.7	3.2	0.86	6.3	
22 LOCAL CHECK 1	91	16	8	5.9	0.84	3.5	6.0	3.7	0.93	6.9	
19 KITO-ST#	88	16	6	2.5	0.74	4.2	7.6	4.1	0.86	6.5	
<b>OPVs with anthesis date between 63 and 64 days</b>											
21 SYNTHETIC-NUE-SR#	103	8	7	4.3	0.75	3.5	6.2	3.3	0.93	6.3	
20 SYNTHETIC-DR-SR#	102	10	7	2.8	0.74	3.3	5.4	4.0	0.87	6.3	
Mean	100	12	6	3.2	0.82	3.6	6.7	3.8	0.90	6.7	
LSD (0.05)											
Min	88	3	2	2.0	0.09	0.6	0.5	1.6	0.06	0.5	
Max	127	17	8	5.9	0.93	4.2	7.6	6.3	0.96	7.2	

**ILPOF99: Results of intermediate and late maturing OPVs from CIMMYT, Malawi, and Tanzania across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across				Grain yield - Lowlands								Grain yield - Midaltitudes eastern Africa								
	Rel GY		Rank	Across	Umbeluzi Moz		Misumba Zam		Makoholi Zim		Across		Bako Eth		Mwapa Ken		Arusha Tan		Nsimbulong Uga		
	%	Avg	Stdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank		
<b>OPVs with anthesis date between 67 and 70 days</b>																					
13 2N6z1 = SADYL F1	125.	4	4	3.35	2	2.81	1	4.47	3	2.97	2	6.45	4	8.95	1	6.45	3	5.07	9	5.32	3
11 LATAC1(F1)/LATBC1 F1	112	7	4	2.93	7	2.45	5	3.62	11	2.71	4	6.35	5	8.03	7	6.99	1	5.69	2	4.71	11
14 MASKA#	113	8	5	3.23	3	2.61	2	4.26	5	2.82	3	5.96	10	7.01	16	6.24	6	6.13	1	4.45	15
12 DRAC0SYNF1/DRBC0SYN F1	113	8	5	3.25	5	2.33	9	4.36	4	3.08	1	6.05	8	7.79	11	6.69	2	5.11	8	4.59	12
1 297SYNGS(A)-F2#	104	10	6	3.28	3	2.59	3	4.58	1	2.65	5	5.53	12	7.59	13	4.50	22	5.11	7	4.93	6
6 [TUXPSEQC6]C1 F2	105	11	6	2.88	9	2.42	6	3.88	8	2.33	12	5.57	13	8.02	8	5.58	12	4.12	20	4.58	13
7 [TSEQQZMIC2] F2	103	11	6	2.71	11	2.40	7	3.33	9	2.39	18	5.69	12	8.11	6	6.41	4	4.45	16	3.82	21
19 CHITIBU #	99	12	6	2.92	9	2.16	15	3.98	7	2.61	5	5.68	12	8.21	5	5.69	11	4.49	15	4.31	16
10 INTAC1(F1)/INTBC1 F1	100	13	6	2.71	13	2.08	18	3.50	14	2.56	7	5.87	10	7.90	10	5.36	15	5.48	5	4.72	10
8 [ZM601DEN]C3 F2	100	13	6	2.42	19	2.13	16	2.94	22	2.20	18	5.55	12	6.83	19	5.82	9	4.64	13	4.90	7
16 KAKHOMERA#	97	14	7	2.58	14	1.73	22	3.61	12	2.41	8	5.08	16	6.31	23	4.97	17	5.17	6	3.86	19
18 SUNDWE#	95	15	6	2.66	15	2.27	12	3.52	13	2.18	19	5.31	14	7.17	15	4.86	18	3.84	22	5.38	2
4 [MIDALTQPM]C2 F2#	94	15	6	2.47	17	1.89	20	3.25	19	2.27	13	4.51	22	6.39	22	4.60	21	3.23	24	3.82	20
24 LOCAL CHECK 2	91	16	7	2.71	12	2.36	8	3.38	17	2.38	10	5.22	14	8.24	4	6.13	7	3.35	23	3.17	23
21 TMV1-#	91	17	4	2.55	17	2.24	14	3.21	20	2.22	17	5.01	17	6.51	20	4.64	19	4.65	12	4.22	17
5 [WHITE QPM]C2 F2#	87	17	6	2.24	21	1.92	19	2.85	23	1.96	22	4.86	19	6.46	21	5.51	14	4.39	17	3.09	24
15 MCHOSANJALA#	80	20	4	2.34	21	1.83	21	3.11	21	2.07	21	4.43	21	5.59	24	3.95	23	4.24	19	3.92	18
<b>OPVs with anthesis date between 70 and 73 days</b>																					
2 297SYNGS(B)-F2#	108	9	7	3.14	6	2.50	4	4.55	2	2.36	11	5.63	11	7.00	17	5.56	13	5.00	10	4.97	5
22 TASEQ#	107	10	7	2.58	16	2.33	10	3.47	15	1.93	23	6.23	7	8.71	2	6.33	5	4.38	18	5.50	1
9 [SUWAN1-SR1COMPE1]C1#	105	10	7	2.65	16	2.32	11	3.45	16	2.16	20	5.97	8	7.70	12	5.71	10	5.59	3	4.87	8
3 AC969A-SR1(best F5) F2	98	13	8	2.57	15	1.43	24	4.04	6	2.25	15	6.09	7	8.55	3	5.12	16	5.58	4	5.09	4
23 LOCAL CHECK 1	94	15	6	2.33	19	2.11	17	2.65	24	2.22	16	5.34	14	7.33	14	6.11	8	4.68	11	3.24	22
17 KAFUMBA#	91	16	5	2.75	12	2.26	13	3.74	10	2.26	14	5.07	17	6.97	18	4.62	20	3.90	21	4.79	9
20 STAHA#	89	16	5	2.42	19	1.62	23	3.76	9	1.87	24	5.20	15	7.93	9	3.92	24	4.51	14	4.46	14
Mean	100	12	6	2.74	13	2.19	13	3.65	13	2.37	13	5.53	13	7.47	13	5.49	13	4.70	13	4.45	13
LSD (0.05)				0.42	0.58	0.72	0.45	0.69	1.31	0.43	1	0.59	1	1.43		1.43		1.28			
Min	80	4	4	2.24	2	1.43	1	2.65	1	1.87	1	4.43	4	5.59	1	3.92	1	3.23	1	3.09	1
Max	125	20	8	3.35	21	2.61	24	4.58	24	3.08	24	6.45	22	8.95	24	6.99	24	8.13	24	5.50	24

**ILPOP99: Results of intermediate and late maturing OPVs from CIMMYT, Malawi, and Tanzania across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across		Grain yield - Midaltitudes southern Africa												
	Rel/GY	Rank	Across		Greytown RSA		Mt. Makulu Zam		ART Farm Zim		Glendale Zim		Ruwa Zim		
%	Avg	Stdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	
<b>OPVs with anthesis date between 67 and 70 days</b>															
13 ZM621 = SADVL F1	125	4	7.95	1	6.69	1	9.79	3	6.61	1	7.58	1	9.10	1	
11 LATAC1(F1/LATBC1 F1	112	7	4	6.74	8	5.85	7	9.96	2	4.42	12	7.04	4	6.47	13
14 MASIKA#	113	8	5	6.11	12	5.23	11	8.16	14	4.20	13	6.20	9	6.75	11
12 DRAC0SYNF1/DRBC0SYN F1	113	8	5	6.48	9	5.86	6	8.09	15	4.11	14	7.38	2	6.98	9
1 Z97SYNGLS(A)-F2#	104	10	6	6.44	10	4.90	15	9.77	5	5.10	6	5.10	18	7.34	8
6 [TUXP SEQQC6]C1 F2	105	11	6	6.60	9	6.61	2	9.39	7	5.47	5	4.16	24	7.36	7
7 [TSEQZIMC2 F2	103	11	6	6.58	9	5.79	9	9.14	8	5.00	7	6.09	10	6.87	10
19 CHITIBU #	99	12	6	6.21	12	4.86	16	10.24	1	4.09	16	5.92	11	5.94	17
10 INTAC1(F1/INTBC1 F1	100	13	6	5.91	15	5.55	10	7.93	17	3.77	21	6.50	5	5.79	20
8 [ZM601DENIC3 F2	100	13	6	5.86	13	5.80	8	6.46	24	4.43	11	6.44	6	6.15	15
97 14 7 5.31 19 4.84 17 7.56 20 4.07 17 4.20 23 5.88 18	97	14	7	5.31	19	4.84	17	7.56	20	4.07	17	4.20	23	5.88	18
16 KAKHOMERA#	95	15	6	6.01	13	3.88	22	9.11	9	4.78	9	6.27	8	6.02	16
18 SUNDWE#	94	15	6	5.99	13	6.01	3	8.87	10	4.11	14	5.30	16	5.65	21
4 [MID ALTO PM]C2 F2#	91	16	7	5.27	19	3.20	24	7.88	19	3.78	20	5.05	19	6.43	14
24 LOCAL CHECK 2	91	17	4	5.47	18	4.92	14	7.88	18	3.83	19	5.28	17	5.43	22
21 TMV-1#	87	17	6	5.09	19	4.94	13	8.24	12	3.08	23	4.73	21	4.44	24
5 [WHITE QPM]C2 F2#	91	16	5	5.01	19	4.34	21	8.05	16	2.51	24	5.58	13	4.58	23
15 MCHOSANJALA#	89	16	5	5.98	13	4.70	18	8.55	11	4.52	10	5.52	14	6.60	12
<b>OPVs with anthesis date between 70 and 73 days</b>															
2 Z97SYNGLS(B)-F2#	108	9	7	7.12	6	5.18	12	9.53	6	5.50	4	7.09	3	8.31	3
22 TASEQ#	107	10	7	6.22	11	5.96	4	6.73	23	4.90	8	5.74	12	7.75	6
9 [SUWAN1-SR/COMPETE]C1 #	105	10	7	7.28	4	5.95	5	9.77	4	5.91	3	6.29	7	8.47	2
3 AC969A-SR(Best FS) F2	98	13	8	6.50	11	4.57	20	8.18	13	6.14	2	5.51	15	8.11	4
23 LOCAL CHECK 1	94	15	6	5.60	17	4.62	19	7.07	22	3.97	18	4.27	22	8.09	5
17 KAFUMBA#	91	16	5	4.93	21	3.46	23	7.25	21	3.30	22	4.78	20	5.87	19
20 STAHA#	89	16	5	5.98	13	4.70	18	8.55	11	4.52	10	5.52	14	6.60	12
<b>Mean</b>	100	12	6	6.11	12	5.15	13	8.48	13	4.48	12	5.75	13	6.68	13
<b>LSD (0.05)</b>				0.60		1.76		2.12		0.95		1.05		0.66	
<b>Min</b>	80	4	4	4.93	1	3.20	1	6.46	1	2.51	1	4.16	1	4.44	1
<b>Max</b>	125	20	8	7.95	21	6.69	24	10.24	24	6.61	24	7.58	24	9.10	24

**ILPO99: Results of intermediate and late maturing OPVs from CIMMYT, Malawi, and Tanzania across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across			Grain yield - Managed and random drought stress											
	Rel GY	Rank	Avg	%	Sidev	t/ha	Rank	Mazozo A9g	Gadohope Bot	Pandamat. Bot	Chitala Mal	Morrumb. Moz	Arusha Tan	Chiredzi Zim	
<b>OPVs with anthesis date between 67 and 70 days</b>															
13 ZM621 = SADVLF1	125	4	4	2.59	4	3.05	1	1.13	7	1.56	9	3.26	3	3.74	2
11 LATAC1F1/LATBC1 F1	112	7	4	2.35	6	1.97	12	1.09	11	1.56	9	3.56	2	3.41	4
14 MASIKA#	113	8	5	2.35	7	2.09	4	1.08	12	1.93	3	3.21	4	1.05	14
12 DRAC0SYNF1/DRBC0SYN F1	113	8	5	2.35	7	1.77	15	1.48	2	2.39	1	3.11	6	1.49	3
1 Z97SYNGLS(A)-F2#	104	10	6	2.08	12	1.94	13	1.03	13	1.31	20	2.65	13	0.86	18
6 [TUXP,SEQG6C1 F2	105	11	6	2.16	12	2.98	2	0.83	21	1.50	12	2.61	15	0.94	17
7 [TSEQZIMC2 F2	103	11	6	2.05	13	2.53	6	1.16	6	2.04	2	2.44	20	0.85	19
19 CHITIBU#	99	12	6	2.08	12	2.15	11	0.96	16	1.66	6	3.02	8	0.60	24
10 INTAC1F1/INTBC1 F1	100	13	6	2.19	11	2.37	8	0.84	20	1.46	14	2.64	14	1.30	7
8 [ZM601DEN]C3 F2	100	13	6	2.10	12	2.80	3	1.00	14	1.53	11	2.23	23	1.21	10
16 KAKHOMERA#	97	14	7	2.09	11	2.39	7	1.26	4	1.78	4	2.44	19	1.31	6
18 SUNDWE#	95	15	6	2.00	14	2.22	10	0.97	15	1.50	13	3.11	5	0.83	21
4 [MID,ALT,QPM]C2 F2#	94	15	6	2.00	14	1.49	19	0.95	17	1.12	24	2.88	9	1.46	4
24 LOCAL CHECK 2	91	16	7	1.70	17	0.69	24	1.62	1	1.35	18	2.39	22	1.10	13
21 TMV-1#	91	17	4	1.96	14	1.82	15	1.10	9	1.58	8	2.50	17	1.10	12
5 [WHITE QPM]C2 F2#	87	17	6	1.82	17	1.63	18	1.09	10	1.31	21	3.02	7	1.05	15
15 MCHOSANJALA#	80	20	4	1.74	19	1.31	20	0.71	23	1.22	22	2.80	12	0.73	23
<b>OPVs with anthesis date between 70 and 73 days</b>															
2 Z97SYNGLS(B)-F2#	108	9	7	2.16	11	2.55	5	1.27	3	1.21	23	3.59	1	1.21	11
22 TASEQ#	107	10	7	2.09	11	1.75	17	1.11	8	1.77	5	2.45	18	1.74	1
9 [SUWAN1-SR1/COMPE1]C1#	105	10	7	2.32	9	2.27	8	0.84	19	1.44	15	2.85	10	1.39	5
3 AC969A-SR(Best FS) F2	98	13	8	1.85	17	1.15	21	0.81	22	1.34	19	1.99	24	0.77	22
23 LOCAL CHECK 1	94	15	6	1.85	14	0.86	23	1.24	5	1.66	6	2.42	21	1.23	9
17 KAFUMBA#	91	16	5	1.90	16	1.82	14	0.86	18	1.43	16	2.81	11	0.84	20
20 STAHA#	89	16	5	1.73	18	0.89	22	0.59	24	1.43	17	2.58	16	1.02	16
Mean	100	12	6	2.06	12	1.96	13	1.04	13	1.54	12	2.77	13	1.12	13
LSD (0.05)				0.28	1.02	0.47		0.63		0.76		0.52		0.89	
Min	80	4	4	1.70	4	0.69	1	0.59	1	1.12	1	1.89	1	0.60	1
Max	125	20	8	2.59	19	3.05	24	1.62	24	2.39	24	3.59	24	1.74	24

**ILPOPP99: Results of intermediate and late maturing OPVs from CIMMYT, Malawi, and Tanzania across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across		Grain yield - Managed N stress								Drought stress					
	Rel GY	Rank	Across		Mazozu Ang	Sussund. Moz	CIMMYT Zim	DR&SS Zim	ASi		EPP	Senesc	ASi		Senesc	
%	Avg	StdDev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	d	1-10	d	1-10		
<b>OPVs with anthesis date between 67 and 70 days</b>																
13 ZM621 = SADVL F1	125	4	2.72	5	2.82	3	2.62	15	3.52	1	1.92	2	4.6	0.80	6.3	
11 LATAC1F1/LATBC1 F1	112	7	2.37	7	2.75	4	2.80	8	2.34	10	1.57	6	2.4	0.78	6.7	
14 MASIKAA#	113	8	2.62	5	3.07	1	2.84	5	2.23	13	2.34	1	4.7	0.76	6.8	
12 DRAC0SYNF1/DRBCOSYN F1	113	8	2.34	11	2.67	6	2.86	14	2.88	4	1.13	19	5.9	0.75	6.6	
1 Z97SYNGLS(A)-F2#	104	10	2.33	10	2.52	9	2.79	9	2.67	7	1.31	13	3.7	0.66	6.7	
6 [TUXPSEQC6]C1 F2	105	11	2.32	11	2.36	10	2.54	22	2.81	5	1.57	7	2.7	0.72	6.4	
7 [TSEQZIM]C2 F2	103	11	2.13	11	1.95	16	2.68	12	2.30	11	1.61	5	4.6	0.72	6.3	
19 CHITIBU #	99	12	2.03	13	2.14	14	2.99	1	1.80	21	1.19	17	4.6	0.62	6.6	
10 INTAC F1/INTBC1 F1	100	13	2.01	17	2.26	13	2.55	21	2.19	14	1.04	20	3.4	0.72	6.6	
8 [ZM601DEN]C3 F2	100	13	2.18	11	1.80	22	2.95	2	2.69	6	1.27	14	2.8	0.75	6.4	
16 KAKHOMERA#	97	14	2.16	14	2.54	6	2.50	23	2.43	8	1.19	16	4.7	0.87	6.4	
18 SUNDWE#	95	15	1.89	18	1.85	21	2.72	11	1.99	18	0.99	21	6.1	0.69	6.7	
4 [MIDALTQP]C2 F2#	94	15	6	2.22	12	2.90	2	2.62	17	2.12	15	1.24	15	6.3	0.79	6.2
24 LOCAL CHECK 2	91	16	7	2.00	13	1.92	18	2.88	3	1.70	22	1.50	9	1.7	0.80	7.0
21 TMV-1#	91	17	4	1.84	20	1.89	20	2.60	18	1.90	20	0.95	22	2.5	0.77	6.7
5 [WHITE QPM]C2 F2#	87	17	6	1.99	13	2.63	7	2.84	4	1.31	23	1.16	16	5.5	0.72	6.0
15 MCHOSANJALA#	80	20	4	1.68	20	2.14	15	2.62	16	1.20	24	0.77	24	4.6	0.61	6.7
<b>OPVs with anthesis date between 70 and 73 days</b>																
2 Z97SYNGLS(B)-F2#	108	9	2.09	12	1.09	24	2.60	19	2.90	3	1.76	3	3.9	0.72	6.1	
22 TASEO-#	107	10	2.53	6	2.75	5	2.83	6	3.11	2	1.42	10	0.7	0.79	6.6	
9 [SUWAN1-SR/COMPET]C1-#	105	10	1.86	19	1.78	23	2.66	13	2.10	17	0.90	23	5.4	0.73	6.5	
3 AC969A-SR(Best FS) F2	98	13	8	2.20	13	2.36	11	2.50	24	2.43	8	1.52	8	3.3	0.58	7.1
23 LOCAL CHECK 1	94	15	6	2.14	11	1.94	17	2.74	10	2.23	12	1.66	4	2.6	0.66	6.0
17 KAFUMBA#	91	16	5	2.13	12	2.35	12	2.83	7	1.93	19	1.40	11	5.0	0.60	6.3
20 STAHA#	89	16	5	2.00	17	1.91	19	2.56	20	2.12	15	1.39	12	4.2	0.61	7.3
<b>Mean</b>																
<b>LSD (0.05)</b>																
<b>Min</b>																
<b>Max</b>																

EIHYB99: Results of early and intermediate maturing hybrids from CIMMYT, CARGILL, DR&SS, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.

Entry Pedigree	Across			Grain yield - Lowlands			Grain yield - Midaltitudes eastern Africa						
	Ref GY	Rank		Across		Ilonga Tan		Across		Bako Eth		Arusha Tan	
		%	Avg	Stdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha
<b>Hybrids with anthesis date between 61 and 65 days</b>													
30 953WH237	100	25	11	3.68	37	3.68	37	6.49	32	7.44	45	5.54	18
5 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWB	94	31	13	2.91	50	2.91	50	6.41	36	7.49	44	5.33	27
8 CML205/Z97EWB	90	33	10	3.58	40	3.58	40	5.79	46	7.42	46	4.16	46
9 CML205/ZM301	90	33	11	4.05	32	4.05	32	6.55	38	8.69	34	4.41	41
43 SC401	82	36	12	4.46	21	4.46	21	6.38	37	7.70	41	5.06	33
<b>Hybrids with anthesis date between 65 and 68 days</b>													
4 [COMPE2/P43-SR//COMPE2] FS#-20-S7/CML390	120	13	11	5.24	6	5.24	6	8.52	7	10.37	8	6.66	5
31 ZS255	122	16	13	5.10	9	5.10	9	8.41	16	8.82	31	8.01	1
12 G16BNSEQC0F118-1-1-B-B/CML202	118	16	11	4.62	15	4.62	15	6.83	37	8.58	35	4.69	38
49 SC515	105	20	13	4.66	14	4.66	14	8.19	9	10.24	10	6.15	8
13 G16SeqC1F47-2-1-2-1-B-B-B/CML202	113	20	13	4.67	13	4.67	13	6.80	29	8.13	37	5.47	21
44 SC403	111	21	15	5.18	7	5.18	7	7.76	14	9.75	13	5.78	14
46 SC407	105	22	14	4.11	31	4.11	31	7.80	15	9.10	22	6.49	7
6 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWA	102	23	13	3.62	38	3.62	38	7.42	20	9.39	17	5.46	23
45 SC405	102	23	12	3.90	34	3.90	34	7.55	16	9.28	19	5.82	13
22 G16BNSEQC0F228-2-3-B-B-B/CML202	107	23	14	3.30	48	3.30	48	6.15	42	7.90	40	4.40	43
36 PAN 6321	102	24	12	4.40	24	4.40	24	7.67	20	10.25	9	5.10	31
47 SC501	95	26	13	4.46	22	4.46	22	7.49	20	9.58	14	5.41	25
1 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML205	100	28	11	4.61	18	4.61	18	6.80	33	8.36	36	5.24	29
37 PAN 6363	95	29	15	3.38	47	3.38	47	7.12	28	8.81	32	5.42	24
32 983WH102	93	30	12	3.39	46	3.39	46	8.11	16	8.82	30	7.40	2
10 CML205/Z97EWA	94	31	11	3.56	41	3.56	41	7.34	20	8.93	24	5.76	15
40 CG4141	89	32	16	3.79	35	3.79	35	6.40	32	7.12	48	5.69	16
42 R201	85	34	16	4.22	29	4.22	29	7.12	24	8.12	38	6.11	9
<b>Hybrids with anthesis date between 68 and 71 days</b>													
2 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML390	114	16	11	5.76	1	5.76	1	7.87	16	10.40	6	5.33	26
14 [COMPE2/P43-SR//COMPE2] FS#-20-1-1-B-1-B/B/CML202	113	16	10	4.92	11	4.92	11	7.85	16	10.23	11	5.47	20
16 SPLC7F182-1-2-B-B-B/CML202	111	19	15	5.03	10	5.03	10	8.44	17	11.79	2	5.08	32
48 SC513	112	19	11	4.61	17	4.61	17	7.05	29	9.04	23	5.06	35
20 INTA-191-2-1-2-B-B-B/CML202	107	20	13	4.37	25	4.37	25	7.93	13	10.37	7	5.49	19
21 LATA-26-1-1-2-1-B-B/CML202	108	21	17	5.33	3	5.33	3	6.88	30	9.35	18	4.41	42
11 [[K64R/PL16-SR]-39-1/[K64R/PL16-SR]-20-2]-5-1-2-B-B-B/CML202	105	22	11	4.03	33	4.03	33	6.21	40	7.61	42	4.81	37
23 G16SeqC1F47-2-1-2-1-B-B-B/CML206	109	24	12	4.29	27	4.29	27	6.28	27	5.49	50	7.06	3
27 INTB-91-1-2-2-1-B-B/CML206	103	24	12	4.45	23	4.45	23	6.74	33	9.14	21	4.34	44
39 PAN 6561	97	25	15	4.23	28	4.23	28	7.35	20	8.86	28	5.83	12
18 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-1-1-B-1-B/CML202	102	26	15	5.49	2	5.49	2	6.81	35	8.71	33	4.91	36
24 DTP1WC6F181-1-#-3-1-1-B-B-B/CML206	92	29	11	4.34	26	4.34	26	7.36	20	8.82	29	5.90	10
35 PAN 6235	93	29	16	5.26	5	5.26	5	7.16	25	8.86	27	5.46	22
50 LOCAL CHECK	93	30	14	3.69	36	3.69	36	7.12	27	9.57	15	4.66	39
41 CG4585	88	32	13	4.60	19	4.60	19	6.21	38	8.89	26	3.53	49
25 [[K64R/P30-SR]-82-2/[K64R/P30-SR]-87-4]-7-3-4-B-B-B-B/CML206	87	35	11	3.50	44	3.50	44	4.55	50	5.95	49	3.14	50
33 PAN 473	85	35	9	3.48	45	3.48	45	7.13	27	9.21	20	5.06	33
34 PAN 6043	83	36	13	3.51	43	3.51	43	7.03	25	7.54	43	6.51	6
38 PAN 6549	75	41	13	3.02	49	3.02	49	6.09	42	7.94	39	4.25	45
<b>Hybrids with anthesis date between 71 and 73 days</b>													
17 TS6C1F238-1-3-3-1-2-#-B-B-B/CML202	117	15	15	5.32	4	5.32	4	8.68	5	10.57	5	6.78	4
15 IKENE8149SR-68-2-BBB-6-BB-B-B/CML202	113	17	14	5.15	8	5.15	8	7.49	17	9.39	16	5.59	17
19 [EV7992/EV8449-SR]C1F2-334-1(OSUB)-10-7(I)-X-X-X-2-B-B-1-B/CML202	107	19	13	4.62	16	4.62	16	8.24	21	11.92	1	4.57	40
3 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML395	103	23	14	4.50	20	4.50	20	7.62	20	9.98	12	5.27	28
26 TS6C1F238-1-3-3-1-2-#-B-B-B/CML206	101	24	15	4.80	12	4.80	12	8.11	17	11.06	3	5.15	30
7 [NAW 5867/P49-SR(S2#)/[NAW 5867] FS#-48-S7/CML216	99	25	18	3.53	42	3.53	42	8.36	8	10.85	4	5.88	11
28 ZM605 C2F1-17-1-B-1-B/CML206	89	31	17	4.14	30	4.14	30	6.45	37	8.91	25	3.98	48
29 [[TUXPSEQ]C1F2/P49-SR]F2-103-2-2-3-B/CML206	80	37	12	3.60	39	3.60	39	5.64	47	7.22	47	4.06	47
<b>Mean</b>	100	25	13	4.29	26	4.29	26	7.15	25	8.96	26	5.34	25
<b>LSD (0.05)</b>				1.16		1.16		1.71		2.39		2.42	
<b>Min</b>	75	13	9	2.91	1	2.91	1	4.55	5	5.49	1	3.14	1
<b>Max</b>	122	41	18	5.76	50	5.76	50	8.68	50	11.92	50	8.81	50

**EIHYB99: Results of early and intermediate maturing hybrids from CIMMYT, CARGILL, DR&SS, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across						Grain yield - Midaltitudes southern Africa							
	Ref GY	Rank		Across		Greytown RSA		Likonde Tan		ART Farm Zim		Ruwa Zim		
		%	Avg	Stdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank
<b>Hybrids with anthesis date between 61 and 65 days</b>														
30 953WH237	100	25	11	5.22	34	3.00	38	6.89	36	5.04	37	5.95	23	
5 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWB	94	31	13	5.71	26	3.87	30	8.29	15	5.28	29	5.39	30	
8 CML205/Z97EWB	90	33	10	5.76	26	5.02	10	8.09	20	4.72	39	5.22	33	
9 CML205/ZM301	90	33	11	5.97	24	3.96	29	7.83	22	5.23	31	6.86	13	
43 SC401	82	36	12	3.46	48	2.13	47	5.70	47	2.67	50	3.33	47	
<b>Hybrids with anthesis date between 65 and 68 days</b>														
4 [COMPE2/P43-SR//COMPE2] FS#-20-S7/CML390	120	13	11	7.61	6	4.98	11	9.56	7	7.83	4	8.07	2	
31 ZS255	122	16	13	5.61	28	4.40	23	6.27	40	6.73	9	5.02	38	
12 G16BNSEQC0F118-1-1-B-B/CML202	118	16	11	6.72	15	6.57	1	8.38	14	5.40	24	6.52	19	
49 SC515	105	20	13	6.52	19	2.11	48	9.77	5	7.43	6	6.77	15	
13 G16SeqC1F47-2-1-2-1-B-B-B/CML202	113	20	13	5.32	31	2.58	43	7.20	32	5.65	21	5.83	26	
44 SC403	111	21	15	5.00	36	2.45	45	7.18	33	5.25	30	5.12	36	
46 SC407	105	22	14	5.68	23	5.04	9	5.01	50	5.93	16	6.72	16	
6 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWA	102	23	13	5.87	22	5.05	8	8.60	10	4.21	43	5.60	28	
45 SC405	102	23	12	5.16	32	3.52	33	7.73	24	5.32	27	4.09	44	
22 G16BNSEQC0F228-2-3-B-B-B/CML202	107	23	14	6.36	18	4.76	16	8.66	9	5.20	32	6.83	14	
36 PAN 6321	102	24	12	5.50	28	4.63	18	6.17	42	5.35	26	5.82	27	
47 SC501	95	26	13	4.70	36	2.49	44	6.48	38	5.82	18	4.03	45	
1 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML205	100	28	11	5.36	31	4.78	15	7.15	34	5.05	36	4.46	40	
37 PAN 6363	95	29	15	4.77	36	4.89	13	6.08	43	3.87	45	4.23	42	
32 983WH102	93	30	12	5.44	29	2.64	42	7.48	28	6.30	13	5.33	32	
10 CML205/Z97EWA	94	31	11	5.24	32	3.70	32	6.44	39	5.74	20	5.09	37	
40 CG4141	89	32	16	3.81	45	3.37	35	5.42	48	3.47	47	2.99	50	
42 R201	85	34	16	3.60	48	2.02	49	5.75	45	3.46	48	3.17	48	
<b>Hybrids with anthesis date between 68 and 71 days</b>														
2 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML390	114	16	11	6.76	13	5.85	2	8.26	17	6.44	11	6.49	21	
14 [COMPE2/P43-SR//COMPE2] FS#-20-1-1-B-1-B-B/CML202	113	16	10	7.12	8	5.34	4	8.58	12	7.04	8	7.53	6	
16 SPLC7F182-1-2-2-B-B-B/CML202	111	19	15	6.47	19	4.64	17	8.29	16	4.96	38	7.99	3	
48 SC513	112	19	11	6.40	20	4.34	24	6.22	41	7.79	5	7.23	10	
20 INTA-191-1-2-1-B-B-B/CML202	107	20	13	7.51	9	4.25	25	9.63	6	8.08	3	8.08	1	
21 LATA-26-1-1-2-1-B-B/CML202	108	21	17	7.21	12	5.12	7	6.96	35	8.87	2	7.90	5	
11 [[K64R/PL16-SR]-39-1/[K64R/PL16-SR]-20-2]-5-1-2-B-B-B/CML202	105	22	11	6.05	22	4.56	20	7.47	29	5.47	23	6.69	17	
23 G16SeqC1F47-2-1-2-1-B-B-B/CML206	109	24	12	5.80	27	4.53	21	7.63	27	5.11	34	5.95	24	
27 INTB-91-1-2-2-1-B-B/CML206	103	24	12	5.58	29	2.87	40	7.71	25	5.31	28	6.44	22	
39 PAN 6561	97	25	15	6.22	18	5.24	5	8.25	18	6.26	14	5.14	35	
18 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-1-B-1-	102	26	15	5.29	32	3.13	36	8.03	21	4.59	42	5.43	29	
24 DTP1WC6F181-1-#-3-1-1-B-B/CML206	92	29	11	5.60	28	2.74	41	7.46	30	5.61	22	6.58	18	
35 PAN 6235	93	29	16	4.62	39	2.98	39	5.24	49	5.06	35	5.19	34	
50 LOCAL CHECK	93	30	14	5.08	32	5.38	3	7.39	31	3.39	49	4.16	43	
41 CG4585	88	32	13	4.90	36	3.48	34	7.77	23	3.97	44	4.40	41	
25 [[K64R/P30-SR]-82-2/[K64R/P30-SR]-87-4]-7-3-4-B-B-B/B/CML206	87	35	11	5.49	29	4.86	14	6.57	37	5.17	33	5.35	31	
33 PAN 473	85	35	9	5.41	32	4.49	22	7.66	26	4.72	41	4.79	39	
34 PAN 6043	83	36	13	4.59	39	4.02	27	5.76	44	4.72	40	3.85	46	
38 PAN 6549	75	41	13	4.43	37	5.13	6	5.70	46	3.82	46	3.05	49	
<b>Hybrids with anthesis date between 71 and 73 days</b>														
17 TS6C1F238-1-3-3-1-2-#-B-B-B/CML202	117	15	15	7.08	13	3.83	31	10.85	2	6.34	12	7.31	8	
15 IKENE814SR-68-2-BBB-6-BB-B-B/CML202	113	17	14	6.76	13	4.62	19	8.59	11	5.83	17	7.98	4	
19 [EV7992#/EV8449-SR]C1F2-334-1(OSU8i)-10-7(I)-X-X-X-2-B-B-1-B/CML202	107	19	13	6.82	13	4.22	28	9.17	8	6.60	10	7.29	9	
3 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML395	103	23	14	5.47	19	4.00	28	9.99	4	5.39	25	6.49	20	
26 TS6C1F238-1-3-3-1-2-#-B-B-B/CML206	101	24	15	7.02	17	3.03	37	12.28	1	5.78	19	7.00	11	
7 (NAW 5867/P49-SR(S2#)/(NAW 5867) FS#-48-S7/CML216	99	25	18	8.15	6	4.94	12	10.19	3	9.97	1	7.51	7	
28 ZM605 C2F1-17-1-B-1-B/CML206	89	31	17	6.24	20	2.27	46	8.39	13	7.41	7	6.90	12	
29 [TUXPSEQ]C1F2/P49-SR]F2-103-2-2-3-B/CML206	80	37	12	5.50	27	1.85	50	8.21	19	6.07	15	5.88	25	
<b>Mean</b>	100	25	13	5.78	26	3.99	26	7.69	26	5.61	26	5.82	26	
LSD (0.05)				0.84		1.52		2.71		0.94		1.26		
Min	75	13	9	3.46	6	1.85	1	5.01	1	2.67	1	2.99	1	
Max	122	41	18	8.15	48	6.57	50	12.28	50	9.97	50	8.08	50	

**EIHYB99: Results of early and intermediate maturing hybrids from CIMMYT, CARGILL, DR&SS, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across			Grain yield - Managed and random drought									
	Rel GY	Rank	Across	Good Hope Bot			Chitata Mal		Morrumb. Moz		Arusha Tan		
	%	Avg	Stdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank
<b>Hybrids with anthesis date between 61 and 65 days</b>													
30 953WH237	100	25	11	2.82	14	1.75	7	2.93	11	3.33	12	3.27	25
5 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWB	94	31	13	2.17	35	1.34	28	1.90	45	2.05	45	2.66	44
8 CML205/Z97EWB	90	33	10	2.30	31	1.30	29	2.07	41	2.17	38	3.14	32
9 CML205/ZM301	90	33	11	2.30	33	1.10	35	2.45	28	1.96	47	3.09	34
43 SC401	82	36	12	2.23	31	1.65	10	2.40	30	2.75	21	2.33	46
<b>Hybrids with anthesis date between 65 and 68 days</b>													
4 [COMPE2/P43-SR//COMPE2] FS#-20-S7/CML390	120	13	11	2.52	23	1.97	1	2.31	35	2.71	23	3.44	20
31 ZS255	122	16	13	2.98	13	1.92	2	2.81	15	2.75	20	3.15	31
12 G16BNSEQC0F118-1-1-B-B/CML202	118	16	11	2.91	14	1.44	25	2.87	14	3.85	5	3.93	5
49 SC515	105	20	13	2.54	23	1.51	20	2.36	33	2.64	25	3.16	29
13 G16SeqC1F47-2-1-2-1-B-B-B/CML202	113	20	13	2.80	18	1.53	19	2.58	24	4.13	1	3.66	12
44 SC403	111	21	15	2.84	16	1.88	3	3.56	1	2.35	35	2.89	37
46 SC407	105	22	14	2.50	23	1.75	6	3.15	6	2.52	27	2.79	39
6 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWA	102	23	13	2.62	19	1.70	9	3.08	7	2.85	17	3.10	33
45 SC405	102	23	12	2.83	14	1.64	11	3.17	5	2.39	33	3.58	16
22 G16BNSEQC0F228-2-3-B-B-B/CML202	107	23	14	2.79	18	1.84	5	2.45	29	3.94	4	3.52	18
36 PAN 6321	102	24	12	2.63	22	1.57	15	2.98	9	2.15	39	3.28	23
47 SC501	95	26	13	2.43	22	1.46	23	2.46	27	3.36	11	3.84	6
1 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML205	100	28	11	2.64	25	0.99	41	2.36	34	2.58	26	3.20	28
37 PAN 6363	95	29	15	2.77	17	1.48	22	2.28	36	2.78	19	3.98	4
32 983WH102	93	30	12	2.22	33	1.41	27	1.70	48	2.08	41	3.42	21
10 CML205/Z97EWA	94	31	11	2.33	31	1.46	24	2.27	38	2.68	24	2.66	43
40 CG4141	89	32	16	2.63	21	1.58	14	3.26	2	2.44	32	2.26	48
42 R201	85	34	16	2.34	27	1.71	8	2.63	21	2.21	37	2.14	49
<b>Hybrids with anthesis date between 68 and 71 days</b>													
2 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML390	114	16	11	2.85	16	1.20	31	2.66	19	3.19	15	3.72	9
14 [COMPE2/P43-SR//COMPE2] FSA-20-1-1-B-1-B-B/CML202	113	16	10	2.75	20	1.48	21	2.57	25	4.04	2	3.84	7
16 SPLC7F182-1-2-2-B-B-B/CML202	111	19	15	2.76	20	0.51	50	2.89	13	3.77	6	3.66	13
48 SC513	112	19	11	2.82	16	1.58	17	2.78	16	3.49	9	3.31	22
20 INTA-191-2-1-2-B-B-B/CML202	107	20	13	2.35	29	1.04	38	2.60	22	3.58	7	2.28	47
21 LATA-26-1-1-2-1-B-B/B/CML202	108	21	17	2.37	30	0.84	44	2.04	42	3.32	13	4.02	3
11 [[K64R/PL16-SR]-39-1/[K64R/PL16-SR]-20-2]-5-1-2-B-B-B/CML202	105	22	11	2.70	19	0.99	40	3.25	3	3.19	14	3.63	14
23 G16SeqC1F47-2-1-2-1-B-B-B/CML206	109	24	12	2.47	25	1.28	30	2.72	17	2.35	34	3.72	10
27 INTB-91-1-2-2-1-B-B/CML206	103	24	12	2.68	22	1.08	37	2.89	12	2.51	28	3.71	11
39 PAN 6561	97	25	15	2.36	27	1.14	33	2.69	16	2.05	44	3.76	8
18 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-1-1-B-1-	102	26	15	2.59	28	0.75	46	2.38	31	3.99	3	2.90	36
24 DTP1WC6F181-1-#-3-1-1-B-B-B/CML206	92	29	11	2.05	34	1.02	39	1.94	43	2.51	29	3.45	19
35 PAN 6235	93	29	16	2.64	20	1.84	4	2.50	26	1.60	49	3.23	26
50 LOCAL CHECK	93	30	14	2.19	33	1.09	36	3.20	4	2.07	43	3.22	27
41 CG4585	88	32	13	2.30	29	1.13	34	3.05	8	2.74	22	2.67	42
25 [[K64R/P30-SR]-82-2/[K64R/P30-SR]-87-4]-7-3-4-B-B-B-B/CML206	87	35	11	2.12	35	1.58	13	1.90	44	2.08	42	2.71	41
33 PAN 473	85	35	9	2.22	34	1.18	32	2.60	23	2.00	46	3.16	30
34 PAN 6043	83	36	13	2.24	32	1.53	18	2.28	37	2.09	40	2.84	38
38 PAN 6549	75	41	13	1.94	38	1.57	16	2.38	32	1.47	50	2.66	45
<b>Hybrids with anthesis date between 71 and 73 days</b>													
17 TS6C1F238-1-3-3-1-2-#-B-B-B/CML202	117	15	15	2.39	27	1.59	12	2.19	40	3.51	8	3.53	17
15 IKENE8149SR-68-2-BBB-6-BB-B-B-B/CML202	113	17	14	2.67	23	0.57	49	1.87	46	2.48	31	4.44	1
19 [EV7992#/EV8449-SR]C1F2-334-1(OSUB)-10-7(I)-X-X-X-2-B-B-1-	107	19	13	2.51	24	0.77	45	2.95	10	2.99	16	3.80	15
3 [[NAW 5867/P30-SR]-111-2/[NAW 5867/P30-SR]-25-1]-8-S7/CML395	103	23	14	2.51	27	0.72	47	2.22	39	3.38	10	4.22	2
26 TS6C1F238-1-3-3-1-2-#-B-B-B/CML206	101	24	15	2.11	32	1.44	28	2.66	20	2.80	18	2.91	35
7 [NAW 5867/P49-SR(S2#)/[NAW 5867] FS#-48-S7/CML216	99	25	18	1.81	38	0.86	43	1.16	50	2.49	30	2.00	50
28 ZM605 C2F1-17-1-B-1-B/CML206	89	31	17	2.04	38	0.66	48	1.17	49	2.33	36	2.73	40
29 [[TUXPSEQ]C1F2/P49-SR]F2-103-2-2-3-B/CML206	80	37	12	1.82	40	0.83	42	1.86	47	1.63	48	3.28	24
<b>Mean:</b>	100	25	15	2.47	25	1.33	26	2.51	26	2.73	26	3.23	26
<b>LSD (0.05)</b>				0.47		0.67		1.02		0.94		1.18	
<b>Min</b>	75	13	9	1.81	13	0.51	1	1.16	1	1.47	1	2.00	1
<b>Max</b>	122	41	18	2.98	40	1.97	50	3.56	50	4.13	50	4.44	50

**EIHYB99: Results of early and intermediate maturing hybrids from CIMMYT, CARGILL, DR&SS, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.**

Entry Pedigree	Across			Grain yield - Drought stress			Grain yield - Managed N stress						
	Rel GY	Rank	Chiredzi Zim	Save Val. Zim	Across	G. Valley Zim	CIMMYT Zim	t/ha	Rank	t/ha	Rank	t/ha	Rank
	%	Avg	Stdev	t/ha	Rank	t/ha	t/ha	Rank	t/ha	Rank	t/ha	Rank	
<b>Hybrids with anthesis date between 61 and 65 days</b>													
30 953WH237	100	25	11	3.02	11	2.60	19	2.08	26	2.57	26	2.07	23
5 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWB	94	31	13	3.00	12	2.11	33	2.45	19	3.06	16	2.80	9
8 CML205/Z97EWB	90	33	10	2.55	23	2.56	20	1.78	35	2.49	29	1.59	38
9 CML205/ZM301	90	33	11	1.99	44	3.22	12	1.47	43	1.80	47	1.29	45
43 SC401	82	36	12	2.23	39	2.01	37	1.79	34	2.87	19	1.57	39
<b>Hybrids with anthesis date between 65 and 68 days</b>													
4 [COMPE2/P43-SR//COMPE2] FS#-20-S7/CML390	120	13	11	2.37	33	2.29	28	2.99	9	3.81	6	2.78	12
31 ZS255	122	16	13	3.74	3	3.51	4	3.16	8	2.97	17	3.92	1
12 G16BNSEQC0F118-1-1-B-B/CML202	118	16	11	2.77	19	2.63	15	3.00	9	2.85	20	3.28	2
49 SC515	105	20	13	2.94	14	2.60	18	2.25	24	3.57	9	1.37	42
13 G16SeqC1F47-2-1-2-1-B-B/B/CML202	113	20	13	2.90	16	1.98	38	3.31	6	3.38	12	2.99	5
44 SC403	111	21	15	3.07	10	3.31	10	2.95	18	5.12	1	1.76	34
46 SC407	105	22	14	2.28	38	2.54	23	2.47	22	3.77	7	2.51	17
6 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWA	102	23	13	3.26	7	1.72	42	2.12	26	3.13	14	1.45	41
45 SC405	102	23	12	3.31	6	2.93	13	2.19	27	3.56	10	1.75	35
22 G16BNSEQC0F228-2-3-B-B/CML202	107	23	14	2.74	20	2.28	29	2.41	19	2.15	37	2.93	6
36 PAN 6321	102	24	12	4.15	1	1.63	43	2.08	28	2.70	24	2.32	20
47 SC501	95	26	13	2.90	15	0.55	50	2.31	24	3.44	11	2.01	26
1 [(NAW 5867/P30-SR)-111-2/(NAW 5867/P30-SR)-25-1]-8-S7/CML205	100	28	11	2.89	17	3.85	1	2.03	28	2.13	38	1.91	31
37 PAN 6363	95	29	15	3.50	4	2.61	16	1.69	37	2.45	31	1.85	32
32 983WH102	93	30	12	2.32	35	2.38	26	1.90	32	2.55	27	1.77	33
10 CML205/Z97EWA	94	31	11	2.45	29	2.48	25	1.86	33	2.00	42	1.23	48
40 CG4141	89	32	16	2.53	25	3.69	2	1.70	37	1.94	44	2.02	25
42 R201	85	34	16	3.90	2	1.45	45	1.72	36	2.31	33	1.60	37
<b>Hybrids with anthesis date between 68 and 71 days</b>													
2 [(NAW 5867/P30-SR)-111-2/(NAW 5867/P30-SR)-25-1]-8-S7/CML390	114	16	11	2.84	18	3.48	5	2.24	23	2.05	40	2.38	19
14 [COMPE2/P43-SR//COMPE2] FS#-20-1-1-B-1-B/B/CML202	113	16	10	2.35	34	2.24	31	2.25	22	2.60	25	1.99	28
16 SPLC7F182-1-2-2-B-B/B/CML202	111	19	15	2.48	28	3.25	11	2.49	20	2.01	41	2.67	14
48 SC513	112	19	11	2.50	26	3.31	8	2.67	17	4.05	2	1.99	29
20 INTA-191-1-2-2-B-B/B/CML202	107	20	13	2.53	24	2.09	34	2.27	23	2.75	23	2.56	15
21 LATA-26-1-1-2-1-B-B/B/CML202	108	21	17	1.92	45	2.08	35	2.61	15	3.62	8	2.18	21
11 [(K64R/PL16-SR)-39-1/(K64R/PL16-SR)-20-2]-5-1-2-B-B/B/CML202	105	22	11	2.58	22	2.65	21	2.64	15	3.87	4	2.08	22
23 G16SeqC1F47-2-1-2-1-B-B/B/CML206	109	24	12	2.43	31	2.30	27	3.14	15	2.54	28	2.55	16
27 INTB-91-1-2-2-1-B-B/CML206	103	24	12	2.19	40	3.61	3	2.51	17	2.93	18	2.80	10
39 PAN 6561	97	25	15	2.67	21	1.85	40	1.97	33	3.97	3	1.09	49
18 [(NAW 5867/P30-SR)-111-2/(NAW 5867/P30-SR)-25-1]-8-1-1-B-1-B/CML202	102	26	15	3.00	13	2.52	24	2.45	19	2.08	39	3.15	3
24 DTP1WC6F181-1-#-3-1-1-B-B/B/CML206	92	29	11	2.49	27	3.88	49	2.25	25	3.27	13	1.98	30
35 PAN 6235	93	29	16	3.24	9	3.42	7	1.30	46	1.81	46	1.28	46
50 LOCAL CHECK	93	30	14	1.78	47	1.81	41	2.35	22	2.83	21	2.46	18
41 CG4585	88	32	13	1.66	48	2.54	22	1.85	33	3.09	15	1.52	40
25 [(K64R/P30-SR)-82-2/(K64R/P30-SR)-87-4]-7-3-4-B-B-B-B/CML206	87	35	11	2.30	37	2.15	32	1.97	30	2.28	35	2.00	27
33 PAN 473	85	35	9	2.40	32	1.97	39	1.33	45	1.99	43	1.34	44
34 PAN 6043	83	36	13	2.08	41	2.80	17	1.16	47	1.57	48	1.36	43
38 PAN 6549	75	41	13	2.00	43	1.58	44	1.13	48	1.45	49	1.05	50
<b>Hybrids with anthesis date between 71 and 73 days</b>													
17 TS6C 1F2J8-1-3-1-2-#-B-B-B/CML202	117	16	15	2.31	38	1.24	47	3.21	5	3.82	5	3.13	4
15 KIENE@1149SR-6B-2BB-#-BB-B-B-B/CML202	113	17	14	3.37	5	3.31	9	2.82	13	2.79	22	2.68	13
19 JEV7992@EV8449-SR/C1F2-234-1)OS1.0@-10-7(0-X-X-2-B-B-1 B/CML202	107	19	13	2.06	42	2.72	14	2.44	19	2.49	30	2.93	7
3 [(NAW 5867/P30-SR)-111-2/(NAW 5867/P30-SR)-25-1]-8-S7/CML395	103	23	14	2.45	30	2.08	36	2.23	23	1.81	45	2.85	8
26 T96C 1F36-1-3-1-2-#-B-B/CML206	101	24	15	1.82	49	1.24	48	2.22	25	2.26	36	2.80	10
7 JNAW 5867/P49-SR(S2@)(NAW 5867) FS#-48-S7/CML218	99	25	18	3.25	8	1.08	48	2.04	28	2.30	34	2.07	24
28 ZM625C2F1-17-7-B-1-B/CML208	99	31	17	1.87	46	3.46	8	1.77	31	1.21	50	1.70	36
29 [(T)XIPSEQC1F2/P49-SR]F2-103-2-2-3-B/CML206	80	37	12	0.99	50	2.25	30	1.78	35	2.34	32	1.28	47
Mean	100	25	13	2.60	28	2.41	25	2.22	28	2.73	26	2.13	25
LSD (0.05)				0.92		1.79		0.73		1.83		0.98	
Min	75	13	3	0.89	1	0.55	1	1.13	6	1.21	1	1.05	1
Max	122	41	18	4.18	50	3.85	50	3.31	48	5.12	50	3.32	50

**EIHYB99: Results of early and intermediate maturing hybrids from CIMMYT, CARGILL, DR&SS, PANNAR and SEED-CO across eastern and southern Africa, 1998-99.**

Entry Pedigree	Across			N stress		Drought			N stress		
	Rel GY	Rank	DR&SS Zim	ASL	EPP	Senesc	ASL	EPP	Senesc	ASL	EPP
	%	Avg	Stdev	t/ha	Rank	d	1-10	d	1-10		
<b>Hybrids with anthesis date between 61 and 65 days</b>											
30 953WH237	100	25	11	1.60	30	0.3	0.92	8.2	5.6	0.92	6.3
5 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWB	94	31	13	1.50	32	2.1	0.81	8.6	6.7	0.87	6.3
8 CML205/Z97EWB	90	33	10	1.27	38	2.0	0.89	7.4	6.5	0.81	6.6
9 CML205/ZM301	90	33	11	1.32	36	2.4	0.79	7.3	7.2	0.92	6.3
43 SC401	82	36	12	0.92	44	3.0	0.83	6.9	6.8	0.80	6.1
<b>Hybrids with anthesis date between 65 and 68 days</b>											
4 [COMPE2/P43-SR//COMPE2] FS#-20-S7/CML390	120	13	11	2.37	9	1.9	0.82	7.0	5.1	0.94	6.1
31 ZS255	122	16	13	2.60	7	2.1	0.88	7.4	2.8	0.96	5.2
12 G16BNSEQC0F118-1-1-B-B/CML202	118	16	11	2.88	4	2.3	0.92	7.1	3.3	1.00	5.7
49 SC515	105	20	13	1.80	22	2.0	0.71	6.9	4.8	0.86	5.8
13 G16SeqC1F47-2-1-2-1-B-B-B/CML202	113	20	13	3.57	2	2.6	0.91	7.8	3.3	0.98	5.6
44 SC403	111	21	15	1.96	20	2.7	0.91	7.5	4.3	1.00	5.9
46 SC407	105	22	14	1.14	41	2.3	0.81	6.6	4.6	0.87	5.6
6 [COMPE2/P43-SR//COMPE2] FS#-20-S7/Z97EWA	102	23	13	1.80	23	2.2	0.89	7.6	7.9	0.92	6.4
45 SC405	102	23	12	1.28	37	2.4	0.78	6.6	6.5	0.85	5.5
22 G16BNSEQC0F228-2-3-B-B-B/CML202	107	23	14	2.16	13	2.4	1.00	7.2	5.0	0.98	5.5
36 PAN 6321	102	24	12	1.23	40	1.7	0.85	7.2	5.0	0.90	6.2
47 SC501	95	26	13	1.47	34	2.1	0.73	7.8	4.3	0.94	5.8
1 [[NAW 5867/P30-SR]-111-2][NAW 5867/P30-SR]-25-1]-8-S7/CML205	100	28	11	2.03	16	2.7	0.89	7.0	4.8	1.00	6.1
37 PAN 6363	95	29	15	0.78	48	1.9	0.97	6.9	4.9	0.94	6.0
32 983WH102	93	30	12	1.39	35	3.5	0.81	7.5	4.9	1.00	5.6
10 CML205/Z97EWA	94	31	11	2.36	10	2.2	0.89	8.5	5.3	0.98	6.1
40 CG4141	89	32	16	1.13	42	1.6	0.88	7.1	4.8	0.96	6.2
42 R201	85	34	16	1.25	39	1.4	0.76	7.1	4.0	0.96	5.8
<b>Hybrids with anthesis date between 68 and 71 days</b>											
2 [[NAW 5867/P30-SR]-111-2][NAW 5867/P30-SR]-25-1]-8-S7/CML390	114	16	11	2.29	11	1.4	0.81	7.4	4.2	1.06	5.4
14 [COMPE2/P43-SR//COMPE2] FS#-20-1-1-B-1-B-B/CML202	113	16	10	2.16	12	2.2	0.86	8.1	6.2	1.00	5.9
16 SPLC7F182-1-2-2-B-B-B/CML202	111	19	15	2.78	5	2.4	0.80	5.6	3.6	0.94	5.5
48 SC513	112	19	11	1.96	19	2.1	0.79	6.9	4.1	0.90	5.7
20 INTA-191-2-1-2-B-B-B/CML202	107	20	13	1.51	31	3.7	0.77	6.6	6.6	0.85	5.3
21 LATA-26-1-1-2-1-B-B/CML202	108	21	17	2.03	17	4.1	0.77	7.6	5.7	0.96	6.1
11 [[K64R/PL16-SR]-39-1][K64R/PL16-SR]-20-2]-5-1-2-B-B-B/CML202	105	22	11	1.98	18	3.7	0.89	6.4	4.8	1.00	5.3
23 G16SeqC1F47-2-1-2-1-B-B-B/CML206	109	24	12	4.32	1	3.4	0.86	7.1	4.1	0.98	5.4
27 INTB-91-1-2-1-B-B/CML206	103	24	12	1.80	23	4.1	0.92	6.5	4.7	0.98	5.2
39 PAN 6561	97	25	15	0.86	46	1.2	0.84	6.9	3.5	1.00	5.9
18 [[NAW 5867/P30-SR]-111-2][NAW 5867/P30-SR]-25-1]-8-1-1-B-1-B/CML202	102	26	15	2.13	14	3.3	0.87	6.2	4.6	0.96	5.6
24 DTP1WC6F181-1-#-3-1-1-B-B-B/CML206	92	29	11	1.48	33	2.9	0.83	8.3	5.8	1.02	5.5
35 PAN 6235	93	29	16	0.80	47	3.8	0.91	6.8	6.2	0.94	6.3
50 LOCAL CHECK	93	30	14	1.75	26	2.0	0.80	6.6	4.8	0.94	6.2
41 CG4585	88	32	13	0.93	43	4.0	0.78	6.6	5.0	0.91	5.7
25 [[K64R/P30-SR]-82-2][K64R/P30-SR]-87-4]-7-3-4-B-B-B-B/CML206	87	35	11	1.64	28	2.3	0.87	6.6	5.6	0.96	5.7
33 PAN 473	85	35	9	0.65	49	1.8	0.90	7.0	5.1	0.84	6.2
34 PAN 6043	83	36	13	0.56	50	2.1	0.89	6.7	4.2	0.97	6.2
38 PAN 6549	75	41	13	0.88	45	3.5	0.78	6.4	5.1	0.81	5.9
<b>Hybrids with anthesis date between 71 and 73 days</b>											
17 TS6C1F238-1-3-3-1-2-#-B-B-B/CML202	117	15	15	2.67	6	2.4	0.88	6.7	4.0	0.96	5.0
15 IKENE8149SR-68-2-BBB-6-BB-B-B/B/CML202	113	17	14	3.00	3	2.4	0.79	7.6	3.0	1.02	5.5
19 [EV7992#[EV8449-SR]C1F2-334-1(OSU8)-10-7(I)-X-X-X-2-B-B-1-B/CML202	107	19	13	1.89	21	3.2	0.78	6.7	4.3	0.93	4.6
3 [[NAW 5867/P30-SR]-111-2][NAW 5867/P30-SR]-25-1]-8-S7/CML395	103	23	14	2.04	15	2.7	0.75	6.1	3.5	0.90	5.6
26 TS6C1F238-1-3-3-1-2-#-B-B-B/CML206	101	24	15	1.60	29	2.5	0.78	5.7	3.0	0.98	5.2
7 [[NAW 5867/P49-SR](S2#[NAW 5867]FS#-48-S7/CML216	99	25	18	1.76	25	4.1	0.68	7.3	3.3	1.00	5.9
28 ZM605 C2F1-17-1-B-1-B/CML206	89	31	17	2.39	8	4.8	0.78	6.8	5.6	0.98	5.1
29 [[TUXPSEQ]C1F2/P49-SR]F2-103-2-2-3-B/CML206	80	37	12	1.72	27	4.2	0.60	6.1	5.8	0.92	5.6
<b>Mean</b>	100	25	13	1.79	25	2.6	0.83	7.0	4.9	0.94	5.8
<b>LSD (0.05)</b>				0.72		1.2	0.15	1.3	2.1	0.13	0.5
<b>Min</b>	75	13	9	0.56	1	0.3	0.60	5.6	2.8	0.80	4.6
<b>Max</b>	122	41	18	4.32	50	4.8	1.00	8.6	7.9	1.06	6.6

## ILHYB99: Results of intermediate and late maturing hybrids from CIMMYT, CARGILL, DR&amp;SS, Malawi, PANNAR and SEED-CO across eastern and southern Africa, 1998/99

Entry Pedigree	Across					Grain yield - Lowlands										Grain yield - Midalt. eastern Africa					Kitale Ken				
	Ref GY	Rank	Across			SEMOC Moz			Umbuduzi Moz			Kafirin Tan			Makarani Zam			Across			Embu Ken				
			%	Avg	StdDev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank		
<b>Hybrids with anthesis date between 55 and 71 days</b>																									
24   TUXPSEQ  C1F2/P49-SR  F2-45-5-1-2-B/CML202	112	25	18	5.24	40	4.06	81	5.84	44	3.76	38	7.31	23	7.83	43	7.57	42	8.10	43	7.83	43	7.57	42	8.10	43
25   TUXPSEQ  C1F2/P49-SR  F2-45-5-1-2-B/CML202	105	26	20	5.40	39	6.12	17	5.70	45	5.46	44	6.32	30	11.33	6	10.16	7	12.50	4	8.88	30	8.80	24	8.97	36
47 PAN6573	110	27	19	5.08	45	5.10	42	4.86	57	3.06	38	7.23	28	8.88	30	8.80	24	8.97	36	4.46	63	4.73	60	4.19	65
51 CB016	113	28	17	6.22	23	8.07	19	8.11	6	3.87	42	7.34	24	7.03	80	7.13	47	6.94	52	6.24	58	6.32	56	6.15	60
50 C8001	107	34	20	5.78	30	4.98	54	7.57	12	4.09	17	6.82	38	6.24	58	6.32	56	6.15	60	4.00	59	4.19	57	4.00	59
56 SC627	100	34	19	4.98	47	4.36	58	5.83	48	3.69	33	6.36	47	9.72	22	8.80	25	10.64	19	7.27	37	7.06	48	10.25	25
52 CB037	100	36	23	6.23	24	6.52	13	7.89	8	3.13	53	7.39	21	4.46	63	4.73	60	4.19	65	4.83	63	5.00	60	4.64	65
49 PAN67	95	39	19	4.83	46	5.16	41	4.15	81	2.48	83	7.63	19	9.67	23	8.94	22	10.41	24	4.88	27	9.30	15	8.88	39
38 INBRED A/CML202	87	39	15	5.27	38	4.68	48	6.29	33	3.63	37	6.83	41	8.88	27	9.30	15	8.88	39	6.84	55	6.63	54	6.74	56
55 SC621	86	40	15	5.21	43	6.78	11	5.57	97	3.23	31	6.26	32	8.86	37	7.06	48	10.25	25	7.27	37	7.06	48	10.25	25
46 PAN6479	94	41	19	5.00	47	3.54	65	6.94	29	3.27	49	6.55	43	6.84	55	6.63	54	6.74	56	7.13	51	6.48	55	7.77	46
40 973WH29	91	41	19	4.78	63	4.37	57	5.98	41	2.40	85	6.35	48	7.13	51	6.48	55	7.77	46	5.99	57	5.20	59	6.78	56
42 PAN6193	89	45	19	6.02	48	5.26	38	8.90	24	3.81	38	4.96	64	9.00	24	8.86	24	9.00	24	8.86	24	8.86	24	8.86	24
<b>Hybrids with anthesis date between 71 and 74 days</b>																									
65 M37W/ZM607#0F37sr-2-3sr-5-2-X-8-2-X-1-BBB/P43C9-1-1-1-1-1-BBB	123	16	16	5.92	34	7.43	3	4.31	59	3.78	29	8.17	4	9.46	23	10.11	8	8.81	38	9.46	23	10.11	8	8.81	38
13 CML202/CML204/CML312	121	19	16	6.82	28	8.69	12	10.10	1	3.61	50	6.19	52	10.79	10	9.48	11	12.10	9	10.79	10	9.48	11	12.10	9
7 CML202/CML395/CML312	116	20	21	8.50	35	8.89	7	4.93	58	4.00	23	6.16	54	11.02	4	10.49	5	12.75	2	9.12	29	10.49	5	12.75	2
10 CML202/CML216/CML312	112	20	19	6.39	16	7.05	6	6.07	38	4.12	16	8.32	3	11.51	5	10.64	4	12.38	5	9.14	27	8.83	23	9.44	31
63 CB027	114	22	15	5.80	29	6.06	39	5.14	52	4.08	18	7.91	3	9.14	27	8.83	23	9.44	31	9.10	32	8.13	37	10.07	26
19 M37W/ZM607#0F37sr-2-3sr-6-2-X-8-2-X-1-BBB/CML202	113	25	15	5.71	32	6.57	33	6.29	34	3.27	50	7.81	11	9.10	32	8.13	37	10.07	26	11.24	37	10.07	26	8.86	38
54 CB040	116	27	20	5.79	29	6.61	10	4.98	54	4.08	19	6.96	32	7.39	45	8.31	31	6.47	59	7.39	45	8.31	31	6.47	59
4 CML202/CML216/CML312/CML206	108	27	12	5.71	29	6.44	36	6.15	35	4.13	16	7.12	39	9.39	27	8.28	32	10.52	21	10.79	10	9.48	11	12.10	9
18 BS19S2n068-1-2-BBB/CML202	111	27	14	5.99	27	6.48	14	7.61	13	3.73	31	6.27	51	8.97	27	9.07	17	8.88	37	10.29	16	9.07	17	8.88	37
48 PAN6587	110	27	16	5.23	40	5.89	63	6.33	31	3.87	28	6.82	36	9.36	27	8.72	36	10.00	27	9.36	27	8.72	36	10.00	27
22 AC8342/IKENNE{1}8149NS/PL9A/C1F1-500-4-X-1-1-BB/CML202	106	28	13	5.72	31	4.80	52	6.88	25	3.49	40	7.91	8	9.22	31	7.18	46	11.25	15	9.22	31	8.22	34	9.91	28
44 PAN6243	109	28	15	5.98	25	5.89	21	7.11	19	4.07	20	6.87	40	9.06	31	8.22	34	9.91	28	10.30	14	9.39	12	11.22	16
9 CML204/CML216/CML312	102	29	18	5.29	38	5.88	32	4.97	58	3.02	26	6.88	39	10.30	14	9.39	12	11.22	16	10.22	16	9.31	14	11.13	18
30 DRB-F2-60-1-1-B/CML206	107	29	18	5.45	34	4.29	59	6.12	37	4.70	3	5.88	38	9.12	29	8.67	27	9.57	30	10.22	16	9.31	14	11.13	18
5 CML204/CML216/CML312/CML206	102	29	16	6.60	13	7.32	8	6.74	27	4.63	5	7.70	14	8.79	29	9.03	18	8.55	40	10.29	16	8.58	20	11.59	11
17 CML216/MBR-ETI/WF2-14-S8	108	30	17	6.36	27	6.05	1	7.09	20	3.48	41	6.42	45	9.42	23	9.13	16	9.70	29	9.32	29	7.26	44	11.39	13
21 SNSYF2N3/U7X-A-90-28-13-1-BSR-BB/CML202	103	30	18	5.42	36	5.80	35	5.87	43	3.53	39	6.50	44	9.32	29	7.26	44	11.39	13	9.25	32	8.02	37	10.07	26
6 CML202/CML395/CML390	103	30	14	6.41	40	6.89	22	5.00	40	3.30	48	6.35	49	10.35	16	8.96	21	11.73	10	10.22	16	9.31	14	11.13	18
1 CML202/CML204/CML312/CML206	104	30	15	5.23	23	5.00	31	3.81	63	3.93	25	7.77	12	10.22	16	9.31	14	11.13	18	10.22	16	9.31	14	11.13	18
3 CML202/CML395/CML312/CML206	99	31	15	5.13	43	4.91	47	5.48	48	4.05	21	8.07	56	10.29	16	8.58	20	11.59	11	10.29	16	9.07	20	11.59	11
2 CML202/CML395/CML310/CML206	99	32	18	5.93	28	6.23	16	7.82	7	3.72	32	5.84	57	9.82	23	8.25	33	11.40	12	9.81	10	11.38	14	10.58	12
31 SC/ZM805#-19-X-1-2-X-1-BBB/CML206	101	32	18	5.90	27	4.53	55	7.85	11	4.64	4	8.77	37	7.84	44	8.54	53	9.14	35	10.30	14	9.25	32	10.30	14
14 CML392/CML206/CML395	100	33	14	6.12	23	5.88	27	7.46	14	3.85	24	7.18	27	9.94	24	7.77	40	12.10	8	9.25	32	10.30	14	9.25	32
23 LPSC4F273-2-2-3-BBB/CML202	102	33	15	6.09	42	4.17	66	5.10	53	3.84	36	7.43	20	8.66	35	6.75	50	10.56	20	8.66	35	6.75	50	10.56	20
32 ZSR923S4BULK-2-2-X-X-X-1-BBB/CML206	97	33	18	5.78	29	5.20	48	7.05	21	4.27	12	6.61	42	10.58	12	9.81	10	11.38	14	9.81	10	11.38	14	10.58	12
45 PAN6335	102	33	19	5.86	33	6.15	18	6.14	36	2.76	60	1.65	18	7.74	41	8.59	29	6.89	33	10.58	12	9.81	10	11.38	14
20 LATA-F2-13B-1-3-1-BB/CML202	97	34	18	5.79	31	6.89	44	7.38	16	2.86	39	8.02	6	7.60	43	8.18	35	7.02	51	9.83	25	7.42	43	12.24	6
57 SC709	92	35	22	6.23	30	5.71	35	6.89	2	3.29	39	6.67	10	9.83	25	7.42	43	12.24	6	9.83	25	7.42	43	12.24	6
35 DRB-F2-16(X-1-2-BBB/CML206	98	36	15	6.14	21	5.39	37	6.82	39	4.28	11	6.77	8	7.63	45	8.88	49	8.38	41	10.79	16	9.48	23	11.13	18
3																									

ILHYB99: Results of intermediate and late maturing hybrids from CIMMYT, CARGILL, DR&amp;SS, Malawi, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.

Entry/Pedigree	Across											Grain yield - Mid-maturity southern Africa										
	Rel GT		Rank		Across		Chitete Mat		Gatetown RSA		Uvondo Tsh		ART Farm Zim		Glenelands Zim		Rat. Arnold Zim		Harare Zim		Natal Zim	
	%	Avg	Stddev	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank	
<b>Hybrids with anthesis data between 60 and 71 days</b>																						
24 [TUXPSEQ]C1F2/P49-SRF2-45-5-1-2-B/CML202	112	26	18	7.57	12	8.97	4	8.47	20	5.93	30	8.82	9	7.65	10	8.09	7	8.45	7	8.03	4	
25 [TUXPSEQ]C1F2/P49-SRF2-45-5-1-B/CML202	105	28	20	8.98	22	7.95	22	5.62	43	6.52	17	7.07	8	5.19	54	9.12	5	9.99	1	8.82	6	
47 PAN673	110	27	19	7.12	16	8.97	3	6.56	17	7.35	7	8.26	15	6.94	23	7.44	20	4.62	53	6.26	47	
51 CB016	113	28	17	6.10	40	7.25	37	5.93	38	6.36	21	4.13	56	6.80	33	6.03	58	4.83	48	6.58	38	
50 CB001	107	34	20	5.67	48	6.80	46	4.82	55	6.14	42	8.89	47	6.29	26	8.27	53	4.28	55	5.74	56	
56 SC627	100	34	19	6.42	31	5.70	81	5.68	41	5.73	33	8.49	11	8.88	45	7.93	9	7.92	14	7.55	16	
52 CB037	100	38	23	5.32	49	6.32	13	4.71	56	4.00	62	4.40	63	6.86	24	5.86	58	3.54	58	4.19	56	
49 PAN67	95	38	19	5.89	45	5.99	58	5.91	13	4.58	51	8.27	53	4.73	58	8.81	67	8.44	27	6.82	34	
38 INBRED A/CML202	87	39	15	6.34	98	7.54	29	5.28	45	5.98	28	4.26	54	8.81	4	8.82	51	4.63	48	6.46	42	
55 SC621	88	40	15	5.27	34	7.83	19	5.62	44	4.17	58	5.26	34	7.20	15	7.27	27	5.90	37	6.54	40	
46 PAN6479	94	41	19	6.09	39	7.49	30	5.97	12	5.35	39	4.97	38	6.12	40	5.78	59	3.44	69	5.97	54	
40 97WH19	91	41	19	6.63	31	9.45	2	4.09	59	4.93	46	6.93	7	7.01	21	6.81	39	2.28	68	6.42	47	
42 PAN6193	89	45	19	5.12	54	7.12	41	4.86	54	3.73	62	3.26	64	6.22	37	6.01	57	5.50	41	6.64	42	
<b>Hybrids with anthesis data between 71 and 78 days</b>																						
16 M37W/ZM607mb37ar-2-3ar-6-2-X]-8-2-X-1-BBB/CML202	123	16	16	7.75	12	7.18	39	7.29	6	6.71	1	8.88	6	7.00	18	7.88	10	9.36	2	9.21	3	
13 CML202/CML204/CML312	121	19	16	7.26	16	8.42	11	7.49	2	7.88	5	8.84	50	7.78	9	7.36	21	8.85	35	7.73	14	
7 CML202/CML216/CML312	116	20	21	7.63	11	8.55	7	7.34	7	8.12	2	8.47	34	8.82	3	8.47	3	5.76	36	7.03	28	
10 CML202/CML216/CML312	112	20	19	7.49	12	8.21	10	7.11	10	7.09	19	5.42	25	8.75	2	7.88	11	8.42	30	7.95	10	
53 CB627	114	22	15	7.14	19	7.34	34	7.17	8	5.78	33	7.24	4	7.99	17	7.18	30	8.35	6	8.20	6	
19 M37W/ZM607mb37ar-2-3ar-6-2-X]-8-2-X-1-BBB/CML202	113	25	16	6.85	28	7.72	25	6.86	16	7.87	4	8.72	44	4.97	58	8.17	2	7.16	20	6.77	35	
54 CB640	116	27	20	6.88	28	8.30	23	7.36	4	6.28	40	4.81	18	8.18	36	7.03	31	6.55	26	7.48	12	
4 CML202/CML216/CML312/CML206	108	27	12	8.72	27	8.49	19	8.28	22	7.04	18	8.87	49	6.60	42	8.93	34	5.96	46	8.92	31	
18 BS1982mb68-1-2-BBB/CML202	111	27	14	6.47	31	8.30	49	8.15	31	8.83	21	8.71	40	6.67	29	7.48	19	9.42	26	7.94	11	
48 PAN667	110	27	16	8.81	23	7.39	32	7.41	3	8.73	94	5.36	27	7.44	13	7.36	21	3.86	67	7.00	27	
22 [AC3342/IKENNE(1)[I1495R/PL9A]]C1F1-500-4-X-1-1-BB-1-9/CML202	106	28	13	6.86	25	7.88	39	6.98	26	6.00	22	4.86	48	7.13	16	7.84	16	8.24	32	7.07	28	
44 PAN6243	109	28	15	6.67	28	7.16	40	6.82	15	7.08	11	4.74	42	7.99	7	7.34	26	3.47	59	5.81	57	
9 CML204/CML216/CML312	102	29	16	7.05	21	7.57	28	8.39	23	6.36	22	4.81	40	6.20	1	7.68	15	7.74	15	7.59	16	
30 DRB-F2-60-1-1-B/CML206	107	29	18	8.48	31	8.30	54	5.68	42	6.00	29	7.60	3	4.68	58	7.26	25	7.52	18	7.98	9	
6 CML204/CML216/CML312/CML205	102	29	16	8.17	32	7.31	35	6.26	28	4.88	47	8.88	38	6.23	36	8.82	41	5.95	56	6.75	36	
17 CML210/MBR-ET(W/F)-14-S8	108	30	17	8.29	38	7.82	26	8.98	11	8.00	44	4.13	57	8.79	27	8.54	49	8.80	32	6.98	29	
21 SNSYNF2/N37UTX-A-90-28-1-BSR-BB/CML202	103	30	18	7.40	16	8.26	14	5.19	48	7.27	8	5.31	31	6.28	6	8.37	1	9.97	21	8.13	7	
8 CML202/CML195/CML390	103	30	14	6.81	30	8.35	12	8.03	32	5.39	38	5.38	36	7.83	11	6.94	33	8.80	4	8.89	50	
1 CML202/CML204/CML312/CML206	104	30	15	6.34	23	8.82	44	8.43	21	6.10	23	6.11	88	6.64	30	6.91	36	3.40	61	7.31	20	
3 CML202/CML195/CML312/CML206	99	31	15	6.76	24	7.77	24	8.25	29	0.44	19	5.29	32	6.88	25	7.53	17	6.86	43	7.11	24	
2 CML202/CML395/CML390/CML206	98	32	18	6.28	26	7.48	31	8.93	35	6.43	20	4.10	58	6.71	28	6.88	40	8.28	11	6.49	41	
31 SC1ZN6568-19-2-X]-1-3-X-1-1-BBB/CML208	101	32	18	6.27	33	7.81	23	4.08	60	5.67	38	6.73	20	6.99	43	6.93	35	7.58	17	7.86	13	
14 CML390/CML208/CML395	100	33	14	6.17	37	7.37	33	6.74	39	4.77	48	8.37	22	7.51	12	6.81	46	8.42	38	8.65	31	
23 LPSCAF273-2-2-3-BBB/CML202	102	33	15	6.29	38	5.79	60	6.88	34	4.72	18	4.72	45	6.88	28	6.98	32	7.81	10	8.70	37	
32 ZBR023S4BAULK 2-2-X-X-X-1-BBB/CML206	97	33	16	6.39	42	6.58	6	4.92	52	9.01	26	6.26	33	8.24	62	6.80	42	6.75	26	7.90	12	
45 PAN6335	102	33	19	6.43	34	9.81	1	8.82	19	4.34	33	4.17	65	7.07	10	6.79	43	4.79	51	6.18	43	
20 LATA-F2-138-1-3-1-BB/CML202	97	34	18	6.52	30	8.95	43	6.37	37	5.98	29	4.73	43	7.00	14	7.57	19	8.26	9	4.87	33	
57 SC700	92	38	23	7.16	21	8.02	9	5.22	47	6.70	24	6.75	1	6.45	44	7.98	8	2.95	63	7.08	26	
36 DRB-F2-180-1-2-BB/CML206	98	36	15	5.98	41	8.26	15	6.38	25	8.40	37	4.08	60	5.95	30	6.69	61	5.45	42	6.55	39	
37 [TUXPSEQ]C1F2/P49-SRF2-45-7-5-1-B/CML206	98	37	16	6.01	59	9.82	52	6.26	49	4.81	15	4.38	37	5.84	47	6.92	38	7.17	25			
15 CML202/CML206	97	40	12	6.17	36	7.01	42	6.91	38	4.87	19	4.05	52	6.82	25	6.97	38	6.06	42	8.92	58	
43 PAN6105	93	40	16	6.55	34	9.82	37	5.04	49	3.89	64	3.53	52	6.17	39	6.87	35	6.16	33	6.34	44	
57 AC0342 (Dwarf maize)	93	41	19	5.48	48	6.44	52	5.86	37	4.13	57	6.35	14	4.52	60	6.83	62	4.67	32	5.49	65	
56 INTB-117-1-2-1-1-BB/CML206	90	41	16	5.35	49	6.82	47	4.01	51	4.37	58	5.82	25	5.29	55	5.39	55	5.72	40	6.26	46	
28 LPSCAF273-2-2-3-BBB/CML206	91	42	14	5.76	45	6.46	50	4.38	57	4.31	54	5.92	17	5.80	48	5.17	53	5.25	31	7.25	21	
59 INBRED-A/CML206	90	42	17	5.02	55	6.33	39	4.07	60	4.37	51	4.03	43	6.24	33	6.06	38	6.06	38	6.39	38	
66 LOCAL CHECK	74	48	21	5.95	46	5.99	57	4.99	50	7.28	3	3.98	51	4.75	53	5.80	15	4.87	56	6.34	48	
41 PAN6115	85	48	18	4.4																		

ILHYB99: Results of intermediate and late maturing hybrids from CIMMYT, CARGILL, DR&amp;SS, Malawi, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.

Entry Pedigree	Across								Grain yield - Managed and random drought stress												
	Ref GY	Rank	Across				Good Hope Bot				Chitatu Mal		Morumbi Mex		Nelspruit RSA		Chiredzi Zim		Save Valley Zim		
			%	Avg	Sdev	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank	tha	Rank
<b>Hybrids with anthesis date between 68 and 71 days</b>																					
24   TUXPSEQ  C1F2/P49-SR F2-45-5-1-2-B/CML202	112	25	18	2.89	29	1.48	37	2.07	31	4.13	1	2.05	59	5.53	2	2.11	43				
25   TUXPSEQ  C1F2/P49-SR F2-45-7-1-B/CML202	108	26	20	2.07	28	2.07	8	0.59	60	3.25	8	4.49	1	0.97	54	2.28	39				
47 PAN657J	110	27	19	3.16	18	2.05	9	2.72	16	2.71	16	2.80	48	5.88	1	2.82	17				
51 C8016	113	28	17	3.20	17	1.78	18	3.58	3	3.09	8	3.11	36	5.26	4	2.47	11				
50 CB001	107	34	20	3.13	20	1.90	14	4.04	1	2.34	30	2.52	33	5.18	5	2.82	16				
56 SC627	100	34	19	2.79	22	2.04	10	2.03	30	1.56	48	3.68	14	4.68	10	2.78	19				
52 CB037	100	36	23	3.09	19	2.34	5	3.88	2	3.07	10	3.25	31	5.99	22	2.03	44				
49 PAN67	95	39	19	2.82	18	1.83	19	2.75	14	1.43	54	2.78	16	3.48	31	3.42	4				
38 INBRED A/CML202	87	39	15	1.49	44	1.74	21	-0.50	60	1.45	52	3.32	28	0.58	61	2.33	38				
55 SG621	86	40	15	1.47	47	1.38	41	-0.38	65	1.68	38	2.99	47	0.28	64	2.58	28				
48 PAN6479	94	41	19	2.63	28	2.13	7	3.07	8	1.42	36	3.30	22	4.40	14	1.28	64				
40 973WH29	91	41	19	2.36	33	1.20	48	1.25	50	1.67	47	3.86	9	3.00	36	3.08	9				
42 PAN6193	89	45	19	2.79	28	0.89	59	3.11	5	1.79	45	3.07	40	4.76	9	3.15	8				
<b>Hybrids with anthesis date between T1 and 74 days</b>																					
19 M37W/ZM607#WF37sr-2-3sr-6-2-X-1-BBB/P43C9-1-1-1-1-1-BBB	123	16	16	1.21	15	2.37	4	-2.88	3	2.42	27	3.79	12	5.38	1	2.43	33				
13 CML202/CML204/CML312	121	19	16	1.88	28	1.36	42	1.72	42	3.04	11	3.43	34	3.71	27	2.78	20				
7 CML202/CML395/CML312	118	20	21	2.31	29	1.56	34	0.63	58	4.00	3	3.88	8	0.83	59	2.08	11				
10 CML202/CML216/CML312	112	20	19	1.85	40	1.75	20	0.80	58	3.29	7	3.07	41	0.90	58	1.32	60				
53 C8027	114	22	15	2.87	29	0.98	62	-2.03	20	2.86	20	3.36	27	4.20	19	2.94	13				
19 M37W/ZM607#WF37sr-2-3sr-6-2-X-1-BBB/CML202	113	25	15	3.06	18	1.80	22	2.74	16	3.81	9	3.22	32	3.75	28	3.37	8				
54 C8040	116	27	20	3.14	28	0.83	84	2.67	17	2.96	14	2.87	51	4.68	11	5.02	1				
4 CML202/CML216/CML312/CML206	108	27	12	2.60	27	1.34	44	-3.14	29	2.13	32	3.88	15	2.91	40	3.43	3				
18 BS1952h6-1-2-BBB/CML202	111	27	14	2.80	24	1.27	46	1.42	22	3.62	6	3.43	33	5.92	24	2.86	23				
49 PAN6587	110	27	16	3.08	19	3.05	1	2.89	9	1.47	51	3.13	36	3.00	6	2.98	10				
22 AC8342UKENNE  D18149SR  PL9A  C1F1-800-4-X-2-J-BB-7-B/CML202	106	28	13	2.73	28	1.26	49	2.83	11	2.57	23	3.58	19	4.20	18	2.02	45				
44 PAN6243	109	28	15	2.80	25	2.37	2	2.86	19	1.82	44	3.07	42	4.33	15	2.54	28				
9 CML204/CML216/CML312	102	29	18	1.82	48	1.82	27	0.84	58	2.58	22	2.65	52	0.97	55	1.30	63				
39 DRB-F2-60-1-1-B/CML206	107	29	18	2.89	24	1.56	32	-2.22	27	3.53	6	3.53	21	4.80	7	1.87	50				
5 CML204/CML216/CML312/CML206	102	29	16	1.85	40	1.50	36	0.85	58	2.47	28	3.85	16	0.90	37	1.70	49				
17 CML216MBR-ET/WF2-11-SB	108	30	17	2.87	33	1.19	61	1.51	46	4.06	2	2.30	54	4.28	18	2.52	30				
21 SNSYNF2  N3  TUX-A-80-28-1-3-BSR-BB/CML202	103	30	18	2.30	34	0.60	68	2.81	19	2.03	35	3.84	17	2.33	48	2.86	22				
8 CML202/CML385/CML390	103	30	14	2.32	32	1.64	25	2.78	13	1.72	48	3.12	37	2.65	47	2.80	25				
1 CML202/CML204/CML312/CML206	104	30	15	2.65	39	1.18	52	2.08	30	2.74	18	3.41	25	4.14	20	2.38	34				
3 CML202/CML395/CML312/CML206	99	31	15	1.85	46	1.43	38	0.77	57	2.40	29	3.78	13	1.10	53	1.67	51				
2 CML202/CML395/CML312/CML206	99	32	18	1.73	43	1.56	33	1.03	52	2.80	21	3.27	30	0.80	60	1.31	62				
31 SC12M625B-19-2-X-1-Z-X-1-BBB/CML206	101	32	18	2.99	35	0.83	63	2.50	20	1.87	40	3.96	5	3.79	25	1.36	58				
14 CML390/CML206/CML395	100	33	14	2.98	33	1.99	11	1.91	27	2.05	34	3.03	48	2.79	41	3.53	29				
23 LPSCAF273-2-2-3-BBB/CML202	102	33	15	2.88	28	1.81	16	2.88	16	2.88	72	3.18	34	3.41	32	1.78	48				
32 ZSP923IS4BULK-2-2-X-X-X-1-BBB/CML206	97	33	18	2.95	35	1.85	23	2.20	26	1.88	36	3.85	10	2.79	42	0.80	66				
45 PAN6538	102	33	19	2.86	38	2.81	2	3.44	4	1.55	46	3.08	49	2.63	43	2.17	42				
20 LATA-F2-138-1-3-1-BBB/CML202	97	34	18	2.49	30	0.96	58	2.22	7	2.88	18	3.83	8	1.02	48	2.17	41				
57 SC608	92	35	22	1.26	93	1.26	47	0.23	81	1.49	57	1.71	63	0.41	53	2.54	27				
35 DRB-F2-180-2-1-BB/CML206	98	36	15	1.89	33	1.83	17	1.83	38	1.84	59	3.58	20	3.49	33	2.20	40				
37   TUXPSEQ  C1F2/P49-SR F2-45-7-8-1-B/CML206	95	37	16	2.38	34	1.81	29	0.21	62	3.04	12	3.20	33	4.59	12	1.64	53				
15 CML202/CML206	90	40	12	1.65	30	0.97	57	0.66	54	2.08	33	2.12	58	1.89	49	1.86	47				
43 PAN6193	93	40	16	2.37	27	1.81	28	2.79	12	1.91	50	3.26	26	2.93	39	3.23	6				
61 ACD42 (Dwarf maize)	93	41	19	2.38	31	2.19	8	2.29	26	0.77	83	3.29	7	1.51	30	1.61	64				
36 INT8-117-1-2-1-BB/CML206	90	41	18	2.38	33	1.85	24	2.49	21	1.33	58	4.14	2	3.24	35	1.45	57				
29 LPSCAF273-2-2-4-BBB/CML206	97	42	14	2.37	39	1.12	35	1.85	45	1.87	41	3.04	45	1.97	39	2.06	24				
39 INRRED A/CML206	90	42	17	2.56	32	1.58	43	1.82	44	1.87	43	4.11	3	4.04	21	2.38	38				
88 LOCAL CHECK	74	45	21	1.02	50	1.80	30	0.02	53	1.82	52	0.21	55	0.21	55	2.45	32				
41 PAN413	81	48	19	2.33	33	1.85	15	3.41	24	1.58	58	4.52	11	3.07	37	1.65	52				
80 ACD31 (Dwarf maize)	76	50	19	1.98	46	1.84	38	0.43	23	1.01	60	3.21	56	1.84	50	2.34	14				
89 ACD31 (Dwarf maize)	78	51	14	1.74	49	1.63	36	1.86	43	0.44	58	3.04	44	1.54	44	1.31	91				
58 ACD12 (Dwarf maize)	71	52	15	1.81	45	1.80	35	1.83	49	0.28	56	3.28	29	1.14	52	1.52	55				
63 ACD6 (Dwarf maize)	66	55	13	1.05	58	1.28	45	1.38	47	0.48	54	1.88	53	1.88	52	0.88	65				
62 ACD61 (Dwarf maize)	68	55	12	1.39	55	1.06	58	1.83	41	0.82	61										

ILHYB99: Results of intermediate and late maturing hybrids from CIMMYT, CARGILL, DR&amp;SS, Malawi, PANNAR and SEED-CO across eastern and southern Africa, 1998/99.

Entry/Pedigree	Across						Grain yield - Managed N stress						Drought stress				N stress		
	Rel GY		Rank		Across		Chitedze Mal		CIMMYT Zim		DR&SS Zim		Abi	EPP	LR	Senesc	ASL	EPP	Senesc
	%	Avg	Stdev	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank	t/ha	Rank
<b>Hybrids with anthesis date between 68 and 71 days</b>																			
24  TUXPSEQ C1F2/P49-SR F2-45-5-1-2-B/CML202	112	25	18	3.14	20	4.77	12	2.79	27	1.66	21	1.5	1.02	4.7	4.1	3.7	0.91	5.9	
25  TUXPSEQ C1F2/P49-SR F2-45-7-5-1-B/CML202	105	26	20	2.83	29	4.08	31	2.09	22	1.43	36	2.2	0.88	4.6	5.8	4.1	0.88	6.0	
47 PAN6573	110	27	19	2.87	38	4.95	8	1.67	62	1.38	38	3.7	0.86	4.5	3.5	6.0	0.83	6.7	
51 C8016	113	28	17	3.55	14	4.53	18	4.16	5	1.96	18	2.7	0.98	2.7	3.3	2.0	0.93	4.0	
50 C8001	107	34	20	3.24	17	4.52	19	2.87	24	2.34	8	1.8	0.97	3.5	4.0	2.9	0.92	7.0	
56 SC627	100	34	19	1.94	58	2.89	62	2.05	55	0.87	56	3.2	0.80	4.6	5.1	4.4	0.80	4.9	
52 C8037	100	36	23	2.48	40	3.04	59	3.16	17	1.25	45	0.9	0.94	4.7	4.3	3.0	0.80	5.8	
49 PAN67	95	39	19	1.98	50	2.30	66	2.72	32	0.92	54	3.3	0.83	4.5	4.6	5.1	0.84	5.7	
38 INBRED A/CML202	87	39	15	2.39	46	4.04	36	1.84	59	1.30	43	6.1	0.61	4.8	4.1	4.9	0.87	5.9	
55 SC621	86	40	15	2.53	43	4.01	59	2.51	40	1.08	51	4.0	0.69	5.0	5.3	3.1	0.88	5.1	
46 PAN6479	94	41	19	2.11	51	3.32	63	2.38	45	0.60	82	4.2	0.88	4.4	3.6	5.1	0.83	6.2	
40 973WH29	91	41	19	1.85	59	2.86	63	1.86	64	1.12	50	6.5	0.74	5.0	5.0	6.0	0.83	6.1	
42 PAN6193	89	45	19	2.16	52	4.05	34	1.78	60	0.64	81	2.9	0.85	4.7	4.8	4.7	0.78	5.0	
<b>Hybrids with anthesis date between 71 and 74 days</b>																			
65 M37V/ZM607#bF37sr-2-3sr-6-2-X>8-2-X-1-BBB/P43C9-1-1-1-1-1-BBB	123	16	16	3.57	13	5.40	5	3.04	6	1.67	27	2.8	0.86	3.6	3.8	2.4	0.82	7.2	
13 CML202/CML204/CML312	121	19	16	4.08	5	5.48	4	3.40	9	3.35	3	2.1	0.86	4.8	6.0	2.8	0.92	5.1	
7 CML202/CML395/CML312	116	20	21	3.90	12	6.08	1	2.73	30	2.67	5	1.6	0.91	5.0	4.1	3.4	0.98	4.9	
10 CML202/CML216/CML312	112	20	19	3.57	13	4.80	10	2.82	26	3.07	4	2.3	0.94	5.1	5.7	2.8	1.00	5.2	
53 C8027	114	22	15	3.88	7	4.89	9	4.35	4	2.34	9	4.3	0.82	4.6	4.4	0.95	4.9		
19 M37V/ZM607#bF37sr-2-3sr-6-2-X>8-2-X-1-BBB/CML202	113	25	15	3.17	20	4.58	14	2.61	36	2.33	10	2.5	0.67	3.6	4.0	4.2	0.86	6.3	
54 C8040	116	27	20	3.94	8	5.02	6	4.70	2	2.12	15	3.0	0.84	4.7	5.0	3.0	0.88	5.7	
4 CML202/CML216/CML312/CML206	108	27	12	3.07	22	4.05	33	3.29	13	1.86	20	4.4	0.82	3.9	5.0	4.0	0.90	5.7	
18 BS19S2n68-1-2-BBB/CML202	111	27	14	3.15	23	3.86	46	3.33	11	2.25	11	2.4	0.98	4.5	6.6	2.7	0.95	5.3	
48 PAN6567	110	27	16	2.83	38	4.39	20	2.18	51	1.32	42	5.4	0.98	4.6	4.2	5.4	0.89	5.8	
22  AC8342  KENNE(1)8149SR//PL9A C1F1-500-4-X-1-1-BB-1-B/CML202	106	28	13	2.83	28	4.18	26	2.83	25	1.47	33	3.1	0.93	4.3	3.8	5.3	0.89	5.8	
44 PAN6243	109	28	15	2.82	35	3.93	44	3.45	8	1.08	52	4.6	0.88	4.2	4.3	5.8	0.92	5.9	
9 CML204/CML216/CML312	102	29	16	3.81	14	6.65	2	2.70	33	2.86	6	2.9	0.88	4.9	4.6	4.2	0.92	5.7	
30 DRB-F2-60-1-1-1-B/CML206	107	29	18	2.82	31	4.58	15	2.34	48	1.58	30	3.7	0.87	4.0	4.0	5.0	0.92	6.0	
5 CML204/CML216/CML312/CML206	102	29	16	3.69	14	5.69	3	2.72	31	2.85	7	2.0	0.87	4.5	5.8	3.2	0.91	6.2	
17 CML216/MBR-ETW/F2-14-S8	108	30	17	3.11	20	4.25	22	3.15	18	1.92	19	1.7	0.81	4.8	4.0	4.4	0.93	6.6	
21 SNSYNF2 N3 TUX-A-90 28-1-3-BSR-BB/CML202	103	30	18	2.30	44	2.95	61	2.39	43	1.65	29	3.8	0.84	4.5	5.3	5.1	0.89	4.2	
6 CML202/CML395/CML390	103	30	14	3.00	24	4.24	23	3.11	20	1.66	28	2.9	0.83	4.2	4.4	3.8	0.87	4.2	
1 CML202/CML204/CML312/CML206	104	30	16	2.83	31	4.68	13	1.96	57	1.86	22	4.2	0.81	4.5	4.8	2.9	0.96	6.0	
3 CML202/CML395/CML312/CML206	99	31	15	3.14	19	4.11	26	2.16	16	2.14	14	3.1	0.77	5.0	6.9	5.0	0.84	6.0	
2 CML202/CML395/CML390/CML206	99	32	18	3.49	11	4.78	11	3.03	7	2.09	16	4.2	0.79	5.1	5.7	4.0	0.86	4.8	
31 SC/ZM605#b-(9-2-X)-1-2-X-1-1-BBB/CML206	101	32	18	3.06	26	3.97	42	3.15	19	2.07	17	6.8	0.82	4.0	4.3	5.3	0.87	5.0	
14 CML390/CML206/CML395	100	33	14	2.49	40	4.14	27	2.65	34	0.87	60	3.7	0.73	4.5	5.1	5.1	0.82	4.8	
23 LPSC4F273-2-2-3-BBB/CML202	102	33	15	2.90	28	4.56	17	2.64	35	1.81	32	2.4	1.03	4.2	4.6	3.5	0.86	5.3	
32 ZSR9234BULK-2-X-X-X-1-BBB/CML206	97	33	18	2.06	52	3.22	58	1.49	68	1.46	34	3.9	0.87	4.1	5.3	3.8	0.89	5.1	
45 PAN6335	102	33	19	2.84	38	4.19	25	2.91	58	1.72	26	3.8	0.93	4.1	4.4	4.0	0.85	6.0	
20 LATA-F2-138-1-3-1-BB/CML202	97	34	18	2.17	52	3.35	52	2.38	44	0.76	58	4.2	0.84	4.8	4.9	3.5	0.86	6.1	
57 SC709	92	35	22	2.19	52	3.32	54	2.10	33	1.16	49	5.3	0.49	4.7	4.6	6.7	0.83	4.2	
35 DRB-F2-180-2-1-BB/CML206	98	36	15	2.57	43	3.87	46	2.60	38	1.24	46	3.9	0.87	4.2	3.9	4.0	0.86	5.8	
37  TUXPSEQ C1F2/P49-SR F2-45-7-5-1-B/CML206	95	37	16	2.60	38	4.31	21	2.15	52	1.35	40	3.8	0.80	4.3	3.8	6.2	0.88	5.8	
15 CML202/CML206	90	40	12	2.40	46	3.98	41	2.28	49	0.93	53	5.4	0.72	3.8	4.4	5.6	0.79	6.4	
43 PAN6195	93	40	15	2.17	52	3.10	58	2.24	50	1.19	48	3.6	0.86	4.3	4.7	4.0	0.85	6.8	
61 ACD42 (Dwarf maize)	93	41	19	2.51	40	3.51	48	2.77	28	1.26	44	5.6	0.78	3.8	3.8	5.8	0.87	5.1	
36 INTB-117-1-2-1-1-BB/CML205	90	41	18	2.58	38	3.61	47	2.81	37	1.72	31	5.8	0.79	4.4	3.5	6.6	0.81	5.8	
28 LPSC3H144-1-2-2-2-4-4-BBB/CML206	91	42	14	2.77	34	3.84	43	2.95	23	1.42	38	3.0	0.89	4.5	4.5	3.3	0.83	5.8	
39 INBRED A/CML206	90	42	17	2.08	54	3.25	55	1.71	81	1.21	47	3.1	0.79	4.3	3.9	4.8	0.86	7.1	
66 LOCAL CHECK	74	45	21	2.01	54	4.02	38	1.24	67	0.76	58	4.1	0.67	4.8	4.2	4.0	0.69	6.2	
41 PAN413	81	48	19	1.94	57	3.30	51	2.06	54	0.36	66	3.0	0.84	3.5	2.5	5.1	0.68	6.3	
60 ACD31 (Dwarf maize)	78	50	19	2.29	48	3.16	57	2.37	46	1.35	40	7.4	0.69	4.2	5.0	6.3	0.86	4.9	
59 ACD21 (Dwarf maize)	76	51	14	2.14	51	3.44	49	1.86	55	1.41	38	7.0	0.66	4.4	4.5	6.4	0.78	5.3	
58 ACD12 (Dwarf maize)	71	52	15	1.29	66	2.55	64	0.89	70	0.43	64	8.8	0.65	4.6	5.6	6.2	0.68	6.0	
63 ACD62 (Dwarf maize)	66	55	13	1.39	64	2.10	66	1.59	63	0.49	63	11.5	0.47	4.1	4.4	5.6	0.68	5.3	
62 ACD51 (Dwarf maize)	66	55	12	1.41	65	2.09	60	0.83	71	0.99	65	10.0	0.57	4.4	5.1	6.1	0.72	5.8	
<b>Hybrids with anthesis date between 74 and 77 days</b>																			
29 P43C9-1-1-1-BB/CML205	115	20	15	2.															

## 4. Measurements

<b>Rel. GY</b>	Relative grain yield expressed as percentage of the mean grain yield of the trial. Values above 100% indicate above-average performance; values below 100% indicate below-average performance.
<b>Rank Avg.</b>	Average rank for grain yield across all trials. Small values indicate superior performance; large values indicate inferior performance.
<b>Rank Stdev.</b>	Standard deviation of rank for grain yield across all trials. Small values indicate stable performance; large values indicate variable performance.
<b>Grain yield</b>	Shelled grain weight per plot adjusted to 12.5% grain moisture and converted to tons per hectare.
<b>Anthesis date</b>	Measured as number of days after planting when 50% of the plants shed pollen.
<b>Plant height</b>	Measured as height between the base of a plant to the insertion of the first tassel branch of the same plant.
<b>Ear height</b>	Measured as height between the base of a plant to the insertion of the top ear of the same plant.
<b>Ear position</b>	Ear height expressed as a percentage of plant height. Small values indicate low ear position; large values indicate high ear position.
<b>Root lodging</b>	Measured as percentage of plants that show root lodging, i.e. those stems are inclining by more than 45°.
<b>Stem lodging</b>	Measured as percentage of plants that show stem lodging, i.e. those stems are broken below the ear.
<b>Husk cover</b>	Measured as percentage of plants with ears that are not completely covered by the husks.
<b>Ear rot</b>	Percentage of ears that are rotten.
<b>GLS</b>	Score for the severity of gray leaf spot ( <i>Cercospora zeae-maydis</i> ) symptoms rated on a scale from 1 (= clean, no infection) to 5 (= severely diseased).
<b>Pucc. sorghi</b>	Score for the severity of common rust ( <i>Puccinia sorghi</i> ) symptoms rated on a scale from 1 (= clean, no infection) to 5 (= severely diseased).
<b>E. turicum</b>	Score for the severity of northern leaf blight ( <i>Exserohilum turicum</i> ) symptoms rated on a scale from 1 (= clean, no infection) to 5 (= severely diseased).
<b>Striga count</b>	Number of <i>Striga hermonthica</i> plants emerged using artificial infestation. Large values indicate susceptibility to <i>Striga</i> , small values indicate partial resistance to <i>Striga</i> .
<b>Chilo part.</b>	Score for the severity of <i>Chilo partellus</i> leaf damage rated on a scale from 1 (= no infestation) to 9 (= severely infested).
<b>Grain weevil</b>	Number of grain weevils hatching and emerging from an infested grain sample within a given period. Large values indicate susceptibility to grain weevils, small values indicate partial resistance to grain weevils.
<b>Grain texture</b>	Rated on a scale from 1 (= flint) to 5 (=dent).
<b>Grain moisture</b>	As measured at harvest.

**ASI** Anthesis-silking interval. Determined by (i) measuring the number of days after planting when 50% of the plants shed pollen (anthesis date, AD) and show silks (silking date, SD), respectively, and (ii) calculating: ASI = SD - AD. If measured under drought or N stress, small or negative values indicate stress tolerance.

**EPP** Number of ears per plant. Counted as number of ears with at least one fully developed grain divided by the number of harvested plants. An EPP of below 1.0 indicates partial barrenness, an EPP of above 1.0 indicates partial prolificacy. If taken under drought or N stress, values of greater or equal 1.0 indicate stress tolerance.

**Leafrolling** Leaf rolling score measured under drought stress on a scale from 1 (unrolled, turgid leaves, desirable) to 5 (severely rolled leaves, undesirable).

**Senescence** Leaf senescence score on a scale from 1 to 10. Taken during grain-filling by estimating the percentage of dead leaf area and dividing it by 10. If taken under drought or N stress, small scores indicate stress tolerance.

1 = 10% dead leaf area

6 = 60% dead leaf area

2 = 20% dead leaf area

7 = 70% dead leaf area

3 = 30% dead leaf area

8 = 80% dead leaf area

4 = 40% dead leaf area

9 = 90% dead leaf area

5 = 50% dead leaf area

10 = 100% dead leaf area

## 5. Sites

Trial classification	Country	Site	Collaborator
<b>Rainfed / well-fertilized</b>			
Random drought	Botswana	Good Hope	L. Lekgari
Random drought	Botswana	Pandamatenga	L. Lekgari
Random drought	Botswana	Sebele	L. Lekgari
Midalt. eastern Africa	Ethiopia	Bako	L. Wolde
Midalt. eastern Africa	Kenya	Embu	D. Kirubi, F. Manyara
Midalt. eastern Africa	Kenya	Kitale	G. Ombakho
Midalt. eastern Africa	Kenya	Mtwapa	W. Chivatsi
Lowlands	Malawi	Baka	P. Banda
Lowlands	Malawi	Chitala	G. Nhlane
Midalt. southern Africa	Malawi	Chitedzi	P. Ngwira
Random drought	Mozambique	Morrumbala-Zambezia	R. Xavier
Lowlands	Mozambique	Mutarara	R. Xavier
Lowlands	Mozambique	SEMOC, Umbeluzi	M. Denic
Lowlands	Mozambique	Tete	A. Andressona Sandramo
Lowlands	Mozambique	Umbeluzi	D. Mariote
	Nigeria	IITA, Temti Jos	A. Menkir
Midalt. southern Africa	South Africa	Greytown	M. Barrow
Random drought	South Africa	Nelspruit	M. Anthony
Midalt. eastern Africa	Tanzania	Arusha	Z. Mduruma, H. Akonaay, Z. Mrinji
Lowlands	Tanzania	Ilonga	F. Tadayo
Lowlands	Tanzania	Katrin	A. Liampawe
Midalt. southern Africa	Tanzania	Likonde	N. Lyimo
Lowlands	Tanzania	Milingao	A. Swai
Midalt. southern Africa	Tanzania	Uyole	N. Lyimo
Midalt. eastern Africa	Uganda	Masaka	D. Kyetere, J. Imanywoha
Midalt. eastern Africa	Uganda	Namulonge	J. Imanywoha, D. Kyetere
Midalt. southern Africa	Zambia	Magoye	C. Mwambula, T. Manda
Lowlands	Zambia	Masumba	C. Mwambula, T. Manda
Lowlands	Zambia	Msekera	C. Mwambula, T. Manda
Midalt. southern Africa	Zambia	Mount Makulu	C. Mwambula, T. Manda
Midalt. southern Africa	Zimbabwe	ART-Farm	L. Mutemeru, E. Tembo
Midalt. southern Africa	Zimbabwe	Glendale	R. Arkell, E. Tembo
Lowlands	Zimbabwe	Makoholi	P. Mushiringi
Midalt. southern Africa	Zimbabwe	Rattray-Arnold	P. Rupende, M. Caulfield
Midalt. southern Africa	Zimbabwe	Ruwa	B. Cowley

Trial classification	Country	Site	Collaborator
<b>Managed drought stress</b>			
Managed drought	Angola	Mazozo	F. Sito
Managed drought	Malawi	Chitala	G. Nhlane, V. Kabambe
Managed drought	Tanzania	Selian	Z. Mduruma, H. Akonaay, Z. Mrinji
Managed drought	Zimbabwe	Chiredzi	N. Damu, T. Dube, M. Bänziger
Managed drought	Zimbabwe	Save Valley	N. Mangombe, G. Masakwa
<b>Managed N stress</b>			
Managed N stress	Angola	Mazozo	F. Sito
Managed N stress	Malawi	Chitedze	V. Kabambe, G. Nhlane
Managed N stress	Mozambique	Sussundenga	D. Mariote, M. Langa
Managed N stress	Zambia	Golden Valley	C. Mungoma, H. Masole
Managed N stress	Zimbabwe	CIMMYT, Harare	N. Damu, M. Bänziger
Managed N stress	Zimbabwe	DR&SS, Harare	R. Madamba, G. Masakwa
<b>Artificial inoculation and infestations</b>			
E. turicum and GLS	Ethiopia	Bako	L. Wolde
Striga hermonthica	Kenya	Alupe	A. Diallo
Chilo partellus	Kenya	Embu	M. Gethi
E. turicum and GLS	Kenya	Kakamega	O. Odongo
E. turicum	Kenya	Kitale	G. Ombakho
Head smut	Kenya	Muguga	J. Njuguna
MSV	Kenya	Muguga	J. Ininda
E. turicum	Malawi	Chitedzi	P. Ngwira
E. turicum	Uganda	Namulonge	D. Kyetere, J. Imanywoha
GLS	Uganda	Masaka	J. Imanywoha, D. Kyetere
GLS	Zimbabwe	CIMMYT, Harare	E. Tembo, K. Pixley
MSV	Zimbabwe	CIMMYT, Harare	S. Mawere, K. Pixley
Maize grain weevil	Zimbabwe	CIMMYT, Harare	M. Masukume, K. Pixley

## 6. Collaborators

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