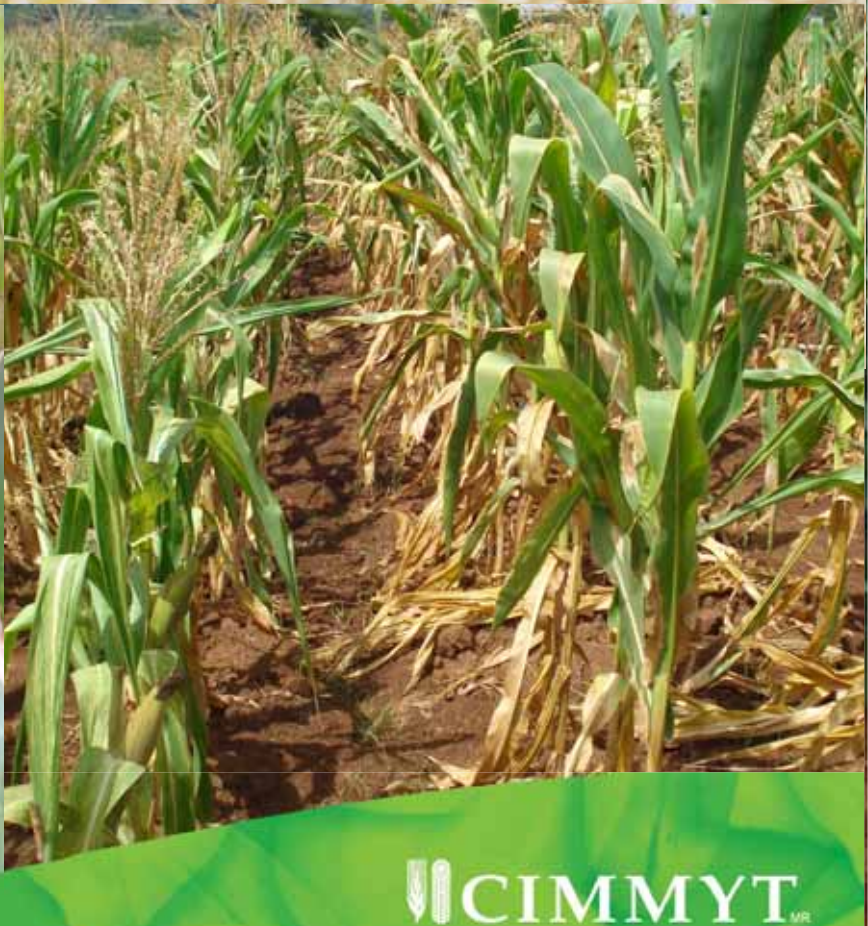

Results of the 2009 Regional Maize Trials Coordinated by CIMMYT-Kenya



**Results of the 2009 Regional Maize Trials
Coordinated by CIMMYT-Kenya**



CIMMYT

The International Maize and Wheat Improvement Center, known by its Spanish acronym, CIMMYT® (www.cimmyt.org), is an international, not-for-profit research and training organization. With partners in over 100 countries, the center works to sustainably increase the productivity of maize and wheat systems to ensure global food security and reduce poverty. The center's outputs and services include improved maize and wheat varieties and cropping systems, the conservation of maize and wheat genetic resources, and capacity building. CIMMYT belongs to and is funded by the Consultative Group on International Agricultural Research (CGIAR) (www.cgiar.org) and also receives support from national governments, foundations, development banks, and other public and private agencies. CIMMYT is particularly grateful for the generous, unrestricted funding that has kept the center strong and effective over many years.

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The Drought Tolerant Maize for Africa (DTMA) Project is jointly being implemented by CIMMYT and the International Institute for Tropical Agriculture (IITA), and is funded by the Bill & Melinda Gates Foundation and the Howard G. Buffett Foundation. The project is part of a broad partnership also involving national agricultural research and extension systems, seed companies, non-governmental organizations (NGOs), community-based organizations (CBOs), and advanced research institutes, known as the DTMA Initiative. Its activities build on longer-term support by other donors, including the Swiss Agency for Development and Cooperation (SDC), the German Federal Ministry for Economic Cooperation and Development (BMZ), the International Fund for Agricultural Development (IFAD), the United States Agency for International Development (USAID), and the Eiselen Foundation. The project aims to develop and disseminate drought tolerant, high-yielding, locally-adapted maize varieties and to reach 30–40 million people in sub-Saharan Africa with these varieties within 10 years.

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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 and private seed companies from eastern Africa. CIMMYT grouped the germplasm according to vigor and maturity, and formed four replicated trials:

ECA-ILHT09: intermediate to late maturing three way cross hybrids

ECA-ILVT09: intermediate to late maturing varietal hybrids

ECA-QHT09: intermediate to late maturing three way cross quality protein maize (QPM) hybrids

ECA-EVT09: early maturing varietal hybrids

All trials were alpha (0, 1) lattice design with two to three replicates. Plot size was one or two-rows.

Trial management

The trials were grown by CIMMYT, National Agricultural Research Programs and private seed companies in eastern and central 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.

A complete list of the sites can be found in Section 3.

Data analysis

In each Table, entries are grouped by anthesis date and 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 according to management of the sites: Rainfed/well fertilized, managed drought stress, and managed N stress.

Each trial for ECA-ILHT09, ECA-ILVT09, ECA-QHT09, and ECA-EVT09 is presented with two Summary Tables and Individual site results. Additional agronomic traits data for individual sites is presented on the accompanying CD.

Summary Tables

The Summary Tables present grain yields averaged across sites with significant differences between entries, for each of the management. Data on agronomic performance such as anthesis date, plant and ear height, ear position, root and stem lodging, husk cover, ear rot, leaf diseases, grain texture and grain moisture were averaged across all 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.

For ECA-ILHT09, ECA-ILVT09, ECA-QHT09, and ECA-EVT09, within each maturity group, grain yields, anthesis date, plant height, root and stem lodging, husk cover, ear rot, leaf diseases, grain texture, ear and plant aspect traits 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, $P \leq 0.05$). 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.

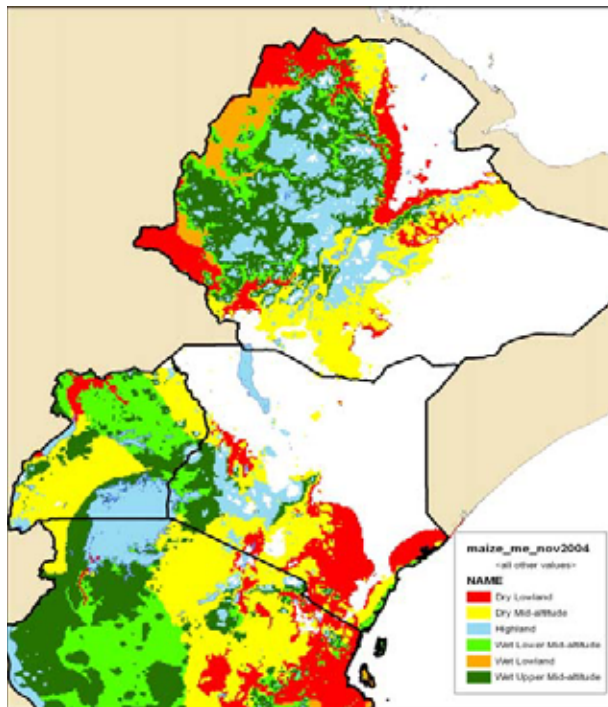
Color Legend		
Within a maturity group, colors that have no letter in common are different by at least one LSD. LSDs were calculated from the mean square error that was pooled across sites.	A	Very Good
	AB	Good
	BC	Average
	CD	Poor
	D	Very Poor

A description of all measurements can be found in Section 2.

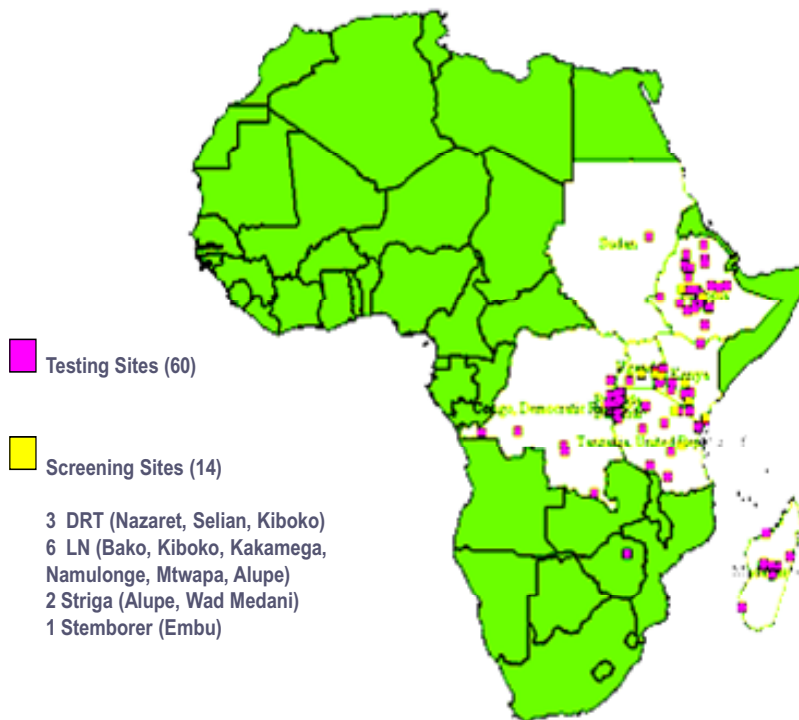
Individual site results

These tables present grain yields and other agronomic traits for individual sites, grouped by management. A description of the sites can be found in Section 3.

Maize Mage-Environments in Eastern Africa



Testing Sites



How can the results be used.....

.... by National Agricultural Research Programs?

- ◆ Request seed of the very best stress-tolerant, responsive OPVs, hybrids and inbred lines from CIMMYT 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, OPVs) in your breeding program and for registration.

.... 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, OPVs) in your breeding program and for commercialization.

.... by Seed-Distributing Agencies?

- ◆ Use data from Regional Trials (available from CIMMYT-Kenya) 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 OPVs 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.

2. Descriptions of Traits Recorded

Rel. GY	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.
Rank Avg.	Average rank for grain yield across all trials. Small values indicate superior performance; large values indicate inferior performance.
Rank Stdev.	Standard deviation of rank for grain yield across all trials. Small values indicate stable performance; large values indicate variable performance.
Grain yield	Shelled grain weight per plot adjusted to 12.5% grain moisture and converted to tons per hectare.
Anthesis date	Measured as number of days after planting when 50% of the plants shed pollen.
Plant Height	Measured as height between the base of a plant to the insertion of the first tassel branch of the same plant.
Ear Height	Measured as height between the base of a plant to the insertion of the top ear of the same plant.
Ear position	A ratio of ear height to plant height. Small values indicate low ear position; large values indicate high ear position.
Root Lodging	Measured as percentage of plants that show root lodging, i.e. those stems that are inclining by more than 45°.
Stem Lodging	Measured as percentage of plants that show stem lodging, i.e. those stems that are broken below the ear.
Husk Cover	Measured as percentage of plants with ears that are not completely covered by the husks.
Ear Rot	Percentage of ears that are rotten.
GLS	Score for the severity of gray leaf spot (<i>Cercospora zeaе-maydis</i>) symptoms rated on a scale from 1 (= clean, no infection) to 5 (= severely diseased).
<i>P. sorghi</i>	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).
<i>E. turcicum</i>	Score for the severity of northern leaf blight (<i>Exserohilum turcicum</i>) symptoms rated on a scale from 1 (= clean, no infection) to 5 (= severely diseased).
<i>H. maydis</i>	Score for the severity of maydis leaf blight (<i>Helminthosporium maydis</i>) symptoms rated on a scale from 1 (= clean, no infection) to 5 (= severely diseased).
DM	Score for the severity of Downy Mildew (<i>Pernosclerospora</i> sp.) symptoms rated on a scale from 1 (= clean, no infection) to 5 (= severely diseased).
PLS	Score for the severity of <i>Phaeosphaeria</i> leaf spot (<i>Phaeosphaeria maydis</i>) symptoms rated on a scale from 1 (= clean, no infection) to 5 (= severely diseased).

Borer damage	Score for the severity of stem borer (<i>Busseola</i> and <i>Chilo</i>) damage rated on a scale from 1 (= clean, no damage) to 5 (= severe damage).
<i>Busseola</i> larvae	Count of the number of <i>Busseola</i> larvae. Higher the number indicates susceptibility.
<i>Chilo</i>	Score for the severity of <i>Chilo partellus</i> leaf damage rated on a scale from 1 (= no infestation) to 9 (= severely infested).
Leaf toughness	Force required to puncture leaves between veins as measured by the penetrometer. Genotypes with lower numbers tend to be susceptible to borers.
Grain weevil (Total F1)	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.
Grain weevil (Wt loss)	Loss of weight of the grain samples caused by weevil feeding during a given period of incubation. Large values indicate susceptibility to weevils.
Grain texture	Rated on a scale from 1 (= flint) to 5 (=dent).
Grain moisture	Percent water content of grain 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 to 1.0 indicate stress tolerance.
Leaf rolling	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
QPM Modification	Score for the extent of modification (extent of opaqueness) of quality protein maize (QPM) kernels rated on a scale from 1 (fully modified/normal looking kernels) to 5 (unmodified/opaque kernels) as evaluated on a light table.

3. Sites and Collaborators

Trial Name	Site	Location	Country	Mega Environment	Planting Date	Plot Area (m ²)	Mean grain yield (t/ha)	Collaborator	Institution
1	ECA-ILHT09	Embu	Kenya	Wet Lower Mid-altitude	17-Apr-09	3.9	4.9	F. Manyara	KARI
2	ECA-ILHT09	Elgon Downs	Kenya	Wet Upper Mid-altitude	24-Apr-09	3.9	4.1	W. Muasya	Kenya Seed Company
3	ECA-ILHT09	AFSF-Arusha	Tanzania	Wet Lower Mid-altitude	15-May-09	4.1	3.9	K. Kitege	Selian Agric Res Inst
4	ECA-ILHT09	Selian	Tanzania	Wet Lower Mid-altitude	11-Apr-09	4.1	5.2	K. Kitege	Selian Agric Res Inst
5	ECA-ILHT09	Bulindi	Uganda	Wet Lower mid-altitude	13-Apr-09	4.0	8.6	G. Asea	NaCRRRI
6	ECA-ILHT09	Namulonge	Uganda	Wet Lower Mid-altitude	17-Apr-09	4.0	4.2	G. Asea	NaCRRRI
7	ECA-ILHT09	Kakamega	Kenya	Wet Upper Mid-altitude	16-Apr-09	5.2	7.5	S. Esmail	Western Seed Company
8	ECA-ILHT09	Kakamega	Kenya	Wet Upper Mid-altitude	23-Apr-09	3.9	5.0	S. Ajanga	KARI
9	ECA-ILHT09	Kakamega	Kenya	Wet Upper Mid-altitude	20-Apr-09	3.9	8.6	S. Ajanga	KARI
10	ECA-ILHT09	Kakamega	Kenya	Wet Upper Mid-altitude	9-Apr-09	3.9	2.6	W. Muasya	Kenya Seed Company
11	ECA-ILHT09	Muguga	Kenya	Wet Upper Mid-altitude	20-Apr-09	3.9	3.2	W. Muasya	Kenya Seed Company
12	ECA-ILHT09	Bako	Ethiopia	Wet Upper Mid-altitude	11-Jun-09	3.8	3.1	W. Mosisa	EIAR
13	ECA-ILHT09	Chiredzi	Zimbabwe	Lowland Tropical Dry	3-Sep-09	3.2	1.5	C. Magorokosho	CIMMYT
14	ECA-ILHT09	Kiboko	Kenya	Dry Mid-Altitude	10-Jun-09	3.2	1.5	CIMMYT	CIMMYT
15	ECA-ILHT09	Kiboko	Kenya	Dry Mid-Altitude	2-Jul-09	3.2	2.5	CIMMYT	CIMMYT
16	ECA-ILHT09	Kakamega	Kenya	Wet Upper Mid-Altitude	16-Oct-09	3.9	6.2	S. Ajanga	KARI
17	ECA-ILHT09	Embu	Kenya	Wet Lower Mid-Altitude	27-Oct-09	3.9	11.6	F. Manyara.	KARI
18	ECA-ILHT09	Bulindi	Uganda	Wet Lower mid-altitude	3-Oct-09	4.0	4.2	G. Asea	NaCRRRI
19	ECA-ILVT09	Selian	Tanzania	Wet Lower Mid-Altitude	13-Apr-09	8.3	1.5	K. Kitege	Selian Agric Res Inst
20	ECA-ILVT09	Weruweru	Tanzania	Wet Lower Mid-altitude	9-Apr-09	8.3	5.5	K. Kitege	Selian Agric Res Inst
21	ECA-ILVT09	Ngetta	Uganda	Wet Lower mid-altitude	7-May-09	8.0	2.3	G. Asea	NaCRRRI
22	ECA-ILVT09	Namulonge	Uganda	Wet Lower Mid-altitude	17-Apr-09	8.0	4.0	G. Asea	NaCRRRI
23	ECA-ILVT09	Kakamega	Kenya	Wet Upper Mid-altitude	14-Apr-09	5.2	6.5	S. Esmail	Western Seed Company
24	ECA-ILVT09	Elgon Downs	Kenya	Wet Upper Mid-altitude	23-Apr-09	7.9	2.6	W. Muasya	Kenya Seed Company
25	ECA-ILVT09	Bumula	Kenya	Wet Upper Mid-altitude	15-Apr-09	7.9	2.9	W. Muasya	Kenya Seed Company
26	ECA-ILVT09	Busia	Kenya	Wet Lower Mid-altitude	17-Apr-09	7.9	1.7	W. Muasya	Kenya Seed Company
27	ECA-ILVT09	Kakamega	Kenya	Wet Upper Mid-altitude	9-Apr-09	7.9	2.1	W. Muasya	Kenya Seed Company
28	ECA-ILVT09	Kakamega	Kenya	Wet Upper Mid-altitude	23-Apr-09	7.9	4.7	S. Ajanga	KARI
29	ECA-ILVT09	Kakamega	Kenya	Wet Upper Mid-altitude	20-Apr-09	7.9	7.9	S. Ajanga	KARI
30	ECA-ILVT09	Embu	Kenya	Wet Lower Mid-altitude	16-Apr-09	7.8	4.4	F. Manyara	KARI
31	ECA-ILVT09	Bako	Ethiopia	Wet Upper Mid-altitude	11-Jun-09	3.8	2.1	W. Mosisa	EIAR
32	ECA-ILVT09	Bako	Ethiopia	Wet Upper Mid-altitude	6-Jun-09	3.8	8.3	W. Mosisa	EIAR
33	ECA-ILVT09	Kiboko	Kenya	Dry Mid-altitude	11-Jun-09	6.3	1.3	CIMMYT	CIMMYT
34	ECA-QHT09	Kakamega	Kenya	Wet Upper Mid-altitude	23-Apr-09	3.9	6.5	G. Ambani	KARI
35	ECA-QHT09	Kakamega	Kenya	Wet Upper Mid-altitude	21-Apr-09	3.9	6.9	G. Ambani	KARI

Trial Name	Site	Location	Country	Mega Environment	Planting Date	Plot Area (m ²)	Mean grain yield (t/ha)	Collaborator	Institution
36	ECA-QHT09	3	Namulonge	Uganda	Wet Lower Mid-altitude	17-Apr-09	4.0	G. Asea	NaCRRRI
37	ECA-QHT09	4	Bulindi	Uganda	Wet Lower Mid-altitude	13-Apr-09	4.0	G. Asea	NaCRRRI
38	ECA-QHT09	5	Kakamega	Kenya	Wet Upper Mid-altitude	14-Apr-09	5.2	S. Esmail	Western Seed Company
39	ECA-QHT09	7	Kakamega	Kenya	Wet Upper Mid-altitude	9-Apr-09	3.9	W. Muasya	Kenya Seed Company
40	ECA-QHT09	10	Elgon Downs	Kenya	Wet Upper Mid-altitude	24-Apr-09	3.9	W. Muasya	Kenya Seed Company
41	ECA-QHT09	11	Kutus	Kenya	Wet lower Mid-altitude	10-Apr-09	3.9	W. Muasya	Kenya Seed Company
42	ECA-QHT09	13	Busia	Kenya	Wet Lower Mid-altitude	18-Apr-09	3.9	W. Muasya	Kenya Seed Company
43	ECA-QHT09	18	Selian	Tanzania	Wet Lower Mid-altitude	11-Apr-09	4.1	K. Kitenge	Selian Agric Res Inst
44	ECA-QHT09	19	AFSF-Arusha	Tanzania	Wet Lower Mid-altitude	20-May-09	4.1	K. Kitenge	Selian Agric Res Inst
45	ECA-QHT09	20	Embu	Kenya	Wet Lower Mid-altitude	16-Apr-09	3.9	F. Manyara	KARI
46	ECA-QHT09	25	Bako	Ethiopia	Wet Upper Mid-altitude	6-Jun-09	3.8	W. Mosisa	EIAR
47	ECA-QHT09	27	Meikasa	Ethiopia	Dry Mid-altitude	23-Jun-09	3.9	G. Bogale	EIAR
48	ECA-QHT09	31	Bako	Ethiopia	Wet Upper Mid-altitude	11-Jun-09	3.8	W. Mosisa	EIAR
49	ECA-QHT09	32	Kiboko	Kenya	Dry Mid-altitude	11-Jun-09	3.2	CIMMYT	CIMMYT
50	ECA-EVT09	1	Kakamega	Kenya	Wet Upper Mid-altitude	20-Apr-09	7.9	S. Ajanga	KARI
51	ECA-EVT09	2	Bungoma	Kenya	Wet Upper Mid-altitude	11-Apr-09	5.2	S. Esmail	Western Seed Company
52	ECA-EVT09	3	Embu	Kenya	Wet Lower Mid-altitude	17-Apr-09	7.9	F. Manyara	KARI
53	ECA-EVT09	4	Weruweru	Tanzania	Wet Lower Mid-altitude	11-Apr-09	8.3	K. Kitenge	Selian Agric Res Inst
54	ECA-EVT09	5	Selian	Tanzania	Wet Lower mid-altitude	13-Apr-09	8.3	K. Kitenge	Selian Agric Res Inst
55	ECA-EVT09	6	Bulindi	Uganda	Wet Lower mid-altitude	14-Apr-09	8.0	G. Asea	NaCRRRI
56	ECA-EVT09	7	Ngetta	Uganda	Wet Lower mid-altitude	11-Apr-09	8.0	G. Asea	NaCRRRI
57	ECA-EVT09	8	Bungoma	Kenya	Wet Upper Mid-altitude	14-Apr-09	5.2	S. Esmail	Western Seed Company
58	ECA-EVT09	11	Elgon Downs	Kenya	Wet Upper Mid-altitude	24-Apr-09	7.9	W. Muasya	Kenya Seed Company
59	ECA-EVT09	12	Kutus	Kenya	Wet lower Mid-altitude	12-Apr-09	7.9	W. Muasya	Kenya Seed Company
60	ECA-EVT09	21	Kibos	Kenya	Wet Lower Mid-altitude	11-Apr-09	7.9	W. Muasya	Kenya Seed Company
61	ECA-EVT09	35	Bako	Ethiopia	Wet Upper Mid-altitude	6-Jun-09	3.8	W. Mosisa	EIAR
62	ECA-EVT09	38	Kiboko	Kenya	Dry Mid-altitude	11-Jun-09	6.3	CIMMYT	CIMMYT
63	ECA-EVT09	39	Meikasa	Ethiopia	Dry Mid-altitude	1-Jul-09	7.9	G. Bogale	EIAR
64	ECA-EVT09	40	Kiboko	Kenya	Dry Mid-altitude	3-Jul-09	6.3	CIMMYT	CIMMYT

4. Summary Results

ECA-ILHT09

Grain yield and other agronomic traits of 36 intermediate to late maturing three way cross hybrids across 18 sites in Eastern and Southern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 1A

Dry Mid AIT MDS Wet Upper Mid AIT RDS Wet Lower Mid AIT OPT Wet Upper Mid AIT OPT

Entry	Pedigree	RelGY	Rank	StdDev	Across				Across				Across				Across								
					GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha			
		%	Avg	StDev	Plant Height	Ear Height	Ear Position	Root	Lodging	Stem	#	%	Husk Cover	Ear Rot	GLS	P.sorg	E.turc	Leaf	Senes	Grain	Text	Ear Aspect	Plant Aspect		
				d	cm	cm	0-1	%	%	%	%	%	%	%	%	1-5	1-5	1-5	1-10	1-5	1-5	1-5	1-5		
Entries with anthesis dates between 71 and 72 days																									
29	CNIL42/CNIL444/INTA/INTB-B-11-B-8-1-B	107	19	11	2.6	1.8	3.0	6.4	71	1	178	71	0.6	4	0	1.0	4	7	2.2	1.8	2.3	2.5	3.3	2.8	2.7
27	CNIL202/CNIL395/INTA/INTB-B-11-B-6-1-B	103	19	12	1.5	1.7	4.1	8.6	71	2	198	77	0.7	4	0	1.1	3	14	2.0	1.6	1.9	3.3	2.2	2.6	2.6
3	CNIL202/CNIL395/INTA/INTB-B-102-B-6-4-B	99	23	8	2.7	1.5	3.2	6.4	72	2	202	82	0.6	7	0	1.1	6	12	1.8	2.2	2.1	2.6	2.7	2.7	
33	CNIL42/CNIL444/INTA/INTB-B-121-B-5-1-B	91	25	10	1.9	0.4	3.5	5.9	72	2	207	77	0.7	5	0	0.9	6	8	1.7	1.8	2.6	3.0	2.8	2.6	2.7
Maturity group average					2.2	1.3	3.5	6.2	72	2	196	77	0.6	5	0	1.0	5	10	1.9	1.9	2.2	2.9	2.7	2.7	2.7
Entries with anthesis dates between 73 and 74 days																									
23	CNIL42/CNIL444/INTA/INTB-B-41-B-1-1-B	120	13	13	2.6	0.8	5.5	7.4	74	1	198	91	0.7	7	0	1.1	8	6	1.5	1.7	2.1	3.1	2.6	2.6	2.7
34	CNIL42/CNIL444/INTA/INTB-B-41-B-14-1-B	113	15	10	2.3	2.0	3.5	6.8	73	1	183	81	0.7	4	0	1.1	16	5	1.7	1.8	1.9	2.5	3.5	2.6	2.7
6	CNIL202/CNIL395/INTA/INTB-B-194-B-2-1-B	109	18	11	3.1	1.4	2.6	6.8	73	2	208	88	0.7	8	0	1.0	10	10	1.5	1.6	2.2	3.5	2.0	2.6	3.0
24	CNIL42/CNIL444/INTA/INTB-B-52-B-1-1-B	108	17	11	2.2	1.6	3.2	7.3	74	2	211	95	0.6	3	0	1.1	2	6	2.2	1.9	2.4	2.8	2.8	2.9	3.1
7	CNIL202/CNIL395/INTA/INTB-B-41-B-1-1-B	106	17	11	2.6	1.5	3.0	6.3	73	2	198	84	0.6	7	0	1.0	10	12	1.6	1.6	2.0	3.1	2.7	2.3	2.8
32	CNIL42/CNIL444/INTA/INTB-B-9-B-10-1-B	104	19	8	2.3	1.3	3.6	6.2	74	2	173	88	0.6	2	0	1.0	3	2	1.5	1.7	2.3	2.8	1.9	2.6	2.7
25	CNIL42/CNIL444/INTA/INTB-B-55-B-2-1-B	104	21	13	3.3	1.6	3.3	6.2	73	1	179	86	0.6	0	0	1.1	7	6	2.2	1.9	2.8	2.8	3.0	2.9	2.5
39	H513	104	20	11	1.7	1.9	4.6	6.3	73	2	191	96	0.6	2	0	1.0	11	10	1.9	2.0	2.0	3.2	2.2	2.8	3.0
4	CNIL202/CNIL395/INTA/INTB-B-152-B-1-1-B	102	17	12	2.0	2.1	3.2	6.6	74	3	182	80	0.6	2	0	0.9	9	15	1.7	1.5	2.0	3.6	1.7	2.1	3.1
13	CNIL42/CNIL444/CKL0506	101	20	9	1.6	1.9	3.8	6.2	74	2	167	75	0.6	3	0	1.0	6	2	1.7	1.8	2.3	3.2	2.2	2.4	2.6
31	CNIL42/CNIL444/INTA/INTB-B-55-B-11-1-B	100	21	11	1.6	3.0	3.4	5.9	73	1	187	80	0.7	5	0	1.1	16	15	1.8	1.9	2.5	2.7	3.6	3.1	2.9
35	KSH516	96	24	14	2.4	0.4	3.9	5.6	74	3	214	100	0.6	10	5	1.2	8	3	2.1	1.8	1.9	3.2	2.1	2.8	3.5
2	CNIL202/CNIL395/CKL05024	95	21	13	1.0	1.2	2.7	6.4	74	3	207	90	0.6	7	2	1.0	6	2	1.6	1.4	1.6	2.9	2.2	2.2	2.7
12	CNIL42/CNIL444/CKL05005	94	24	10	2.2	1.3	3.5	5.9	74	1	171	76	0.6	2	0	1.0	8	6	1.9	2.0	2.1	2.5	2.8	2.7	2.9
1	CNIL202/CNIL395/CKL05005	91	24	11	1.3	0.9	3.6	5.7	73	3	193	76	0.6	7	3	1.0	10	5	1.9	2.3	1.9	3.0	1.6	2.6	2.8
8	CNIL202/CNIL395/INTA/INTB-B-52-B-1-1-B	89	27	8	1.9	1.9	2.7	5.9	74	3	198	81	0.5	7	0	1.0	7	10	1.9	2.1	2.0	3.5	2.1	2.9	3.2
5	CNIL42/CNIL444/INTA/INTB-B-215-B-5-1-B	84	29	10	1.6	1.5	2.6	6.1	73	2	196	73	0.6	8	5	1.1	6	10	1.5	1.9	2.7	3.2	3.1	2.6	2.6
1	CNIL202/CNIL395/INTA/INTB-B-161-B-8-1-B	84	29	8	1.0	1.6	2.8	6.0	73	4	211	77	0.6	6	0	1.0	9	17	1.4	2.3	2.1	3.7	2.6	2.9	2.9
40 LOCAL CHECK		83	26	12	0.6	1.0	3.2	5.8	73	3	215	79	0.6	5	0	1.1	10	10	1.8	1.8	1.8	3.4	2.0	2.5	2.7
Maturity group average					2.0	1.5	3.4	6.3	74	2	194	82	0.6	5	1	1.1	9	8	1.8	1.8	2.1	3.1	2.5	2.7	2.8
Entries with anthesis dates between 75 and 76 days																									
17	CNIL42/CNIL444/CKL05018	117	11	9	2.6	1.5	3.8	7.6	75	1	200	85	0.5	6	0	1.0	8	0	1.5	1.4	1.7	2.8	2.4	2.2	2.9
18	CNIL42/CNIL444/CKL05022	116	13	13	2.4	1.8	5.0	7.2	76	2	216	96	0.7	3	0	1.0	6	8	1.5	1.4	1.9	2.7	2.7	2.3	2.8
28	CNIL202/CNIL395/INTA/INTB-B-160-B-2-1-B	110	16	11	2.8	2.2	2.4	7.0	75	2	211	87	0.6	8	0	1.1	9	3	2.1	1.8	2.0	3.0	2.0	2.7	2.9
16	CNIL42/CNIL444/CKL05017	108	15	11	1.9	1.2	4.6	6.7	75	1	198	81	0.6	2	0	1.0	6	4	1.6	1.5	1.7	3.0	2.4	2.5	2.7
9	CNIL202/CNIL395/INTA/INTB-B-86-B-6-1-B	105	19	10	3.1	0.9	3.8	6.6	75	2	216	91	0.6	3	3	1.1	4	11	2.4	1.8	2.0	3.1	2.4	2.4	2.9

ECA-ILHT09

Grain yield and other agronomic traits of 36 intermediate to late maturing three way cross hybrids across 18 sites in Eastern and Southern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 1A

Entry	Pedigree	RelGY	Across			Across			Across			Across			Across			Across			Across			Across					
			GY	t/ha	StkDev	Rank	GY	t/ha	StkDev	Rank	GY	t/ha	StkDev	Rank	GY	t/ha	StkDev	Rank	GY	t/ha	StkDev	Rank	GY	t/ha	StkDev	Rank	GY	t/ha	StkDev
26	CML42/CML444/INTA/INTB-B-86-B-6-1-B	104	2.6	1.5	11	2.7	1.5	11	2.7	1.5	11	2.7	1.5	11	2.7	1.5	11	2.7	1.5	11	2.7	1.5	11	2.7	1.5	11	2.7	1.5	11
30	CML42/CML444/INTA/INTB-B-160-B-4-1-B	101	2.6	0.8	10	3.4	0.8	10	3.4	0.8	10	3.4	0.8	10	3.4	0.8	10	3.4	0.8	10	3.4	0.8	10	3.4	0.8	10	3.4	0.8	10
15	CML42/CML444/CKL05015	98	1.7	1.6	8	2.9	1.6	8	2.9	1.6	8	2.9	1.6	8	2.9	1.6	8	2.9	1.6	8	2.9	1.6	8	2.9	1.6	8	2.9	1.6	8
22	CML42/CML444/INTA/INTB-B-33-B-1-1-B	95	0.9	1.9	11	3.1	1.9	11	3.1	1.9	11	3.1	1.9	11	3.1	1.9	11	3.1	1.9	11	3.1	1.9	11	3.1	1.9	11	3.1	1.9	11
38	WH505	94	1.1	1.1	11	3.0	1.1	11	3.0	1.1	11	3.0	1.1	11	3.0	1.1	11	3.0	1.1	11	3.0	1.1	11	3.0	1.1	11	3.0	1.1	11
20	CML42/CML444/INTA/INTB-B-152-B-1-1-B	92	2.0	0.2	11	2.6	0.2	11	2.6	0.2	11	2.6	0.2	11	2.6	0.2	11	2.6	0.2	11	2.6	0.2	11	2.6	0.2	11	2.6	0.2	11
14	CML42/CML444/CKL05010	89	1.4	1.1	11	2.7	1.1	11	2.7	1.1	11	2.7	1.1	11	2.7	1.1	11	2.7	1.1	11	2.7	1.1	11	2.7	1.1	11	2.7	1.1	11
19	CML42/CML444/CKL05024	78	0.7	0.4	11	2.8	0.4	11	2.8	0.4	11	2.8	0.4	11	2.8	0.4	11	2.8	0.4	11	2.8	0.4	11	2.8	0.4	11	2.8	0.4	11
37	WH403	57	1.7	1.3	7	1.6	1.3	7	1.6	1.3	7	1.6	1.3	7	1.6	1.3	7	1.6	1.3	7	1.6	1.3	7	1.6	1.3	7	1.6	1.3	7
Maturity group average			2.0	1.3		3.2	1.3		3.2	1.3		3.2	1.3		3.2	1.3		3.2	1.3		3.2	1.3		3.2	1.3		3.2	1.3	
Entries with anthesis dates equal to 77 days																													
11	CML42/CML444/CKL05004	126	3.1	2.4	10	3.8	2.4	10	3.8	2.4	10	3.8	2.4	10	3.8	2.4	10	3.8	2.4	10	3.8	2.4	10	3.8	2.4	10	3.8	2.4	10
10	CML42/CML444/CKL05003	123	3.1	2.8	11	4.3	2.8	11	4.3	2.8	11	4.3	2.8	11	4.3	2.8	11	4.3	2.8	11	4.3	2.8	11	4.3	2.8	11	4.3	2.8	11
36	KSH520	95	1.7	1.8	12	3.1	1.8	12	3.1	1.8	12	3.1	1.8	12	3.1	1.8	12	3.1	1.8	12	3.1	1.8	12	3.1	1.8	12	3.1	1.8	12
Maturity group average			2.6	2.3		3.7	2.3		3.7	2.3		3.7	2.3		3.7	2.3		3.7	2.3		3.7	2.3		3.7	2.3		3.7	2.3	
Mean		100	2.0	1.48		3.36	1.48		3.36	1.48		3.36	1.48		3.36	1.48		3.36	1.48		3.36	1.48		3.36	1.48		3.36	1.48	
LSD (0.05)		13	5	1.11		1.27	1.11		1.27	1.11		1.27	1.11		1.27	1.11		1.27	1.11		1.27	1.11		1.27	1.11		1.27	1.11	
Min		57	0.64	0.23		1.62	0.23		1.62	0.23		1.62	0.23		1.62	0.23		1.62	0.23		1.62	0.23		1.62	0.23		1.62	0.23	
Max		126	3.30	2.98		5.50	2.98		5.50	2.98		5.50	2.98		5.50	2.98		5.50	2.98		5.50	2.98		5.50	2.98		5.50	2.98	
NumSignificantSites		15	15	1		2	1		2	1		2	1		2	1		2	1		2	1		2	1		2	1	

ECA-1LHT09

Grain yield of 36 intermediate to late maturing three way cross hybrids across 18 sites in Eastern and Southern Africa, 2009.
MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 1B

Entry	Pedigree	RelGY	Across	Dry Mid Alt MDS			Lowland Tropical Dry MDS			Wet Upper Mid Alt RDS			Wet Lower Mid Alt OPT			Wet Upper Mid Alt OPT											
				Across		Kiboko Ken	Across		Chiredzi Zim	Across		Elgon Downs Ken	Across		Embu Ken	AFSF-Ausha Tan		Bulindi Uga		Namulonge Uga		Across		Embu Ken	Kakamega Ken		
				GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha
Entries with anthesis dates between 71 and 72 days																											
29	CML442/CML444/INTA/INTB-B-11B-8-1-B	107	19	2.6	2.7	1.8	1.8	3.0	4.2	1.8	6.9	3.4	5.1	7.8	9.5	4.4	11.2	6.4	6.8	4.7	7.9	6.1	10.4	6.9	8.9	7.4	
27	CML202/CML395/INTA/INTB-B-11B-8-1-B	103	19	1.5	0.8	2.3	1.7	4.1	5.9	2.4	5.8	4.5	4.4	4.7	6.2	3.8	11.1	5.6	8.0	6.5	9.4	10.4	6.9	8.9	7.4		
3	CML202/CML395/INTA/INTB-B-102-B-6-1-B	99	23	2.7	2.8	2.5	1.5	3.2	3.8	2.6	5.7	4.5	2.9	4.4	7.6	4.4	10.7	6.4	7.2	4.9	7.9	5.8	6.3	7.4			
33	CML442/CML444/INTA/INTB-B-121-B-5-1-B	91	25	1.9	1.5	2.4	0.4	3.5	4.4	2.7	6.3	5.8	3.7	6.1	8.0	3.9	10.0	5.9	6.4	3.4	8.5	5.4	6.9	7.4			
Maturity group average																											
2.2			10	2.2	1.9	2.5	1.3	3.5	4.5	2.4	6.2	4.5	4.0	5.7	7.8	4.1	10.7	6.8	7.1	4.8	8.5	6.9	7.4	8.9	7.4		
Entries with anthesis dates between 73 and 74 days																											
23	CML442/CML444/INTA/INTB-B-41B-1-1-B	120	13	2.6	2.4	2.9	0.8	5.5	5.7	5.3	7.4	5.8	5.8	4.1	9.7	4.1	14.9	7.8	10.0	5.4	11.2	4.4	4.4	6.9	7.4		
34	CML442/CML444/INTA/INTB-B-41B-14-1-B	113	15	2.3	3.1	1.4	2.0	3.5	5.0	2.1	6.8	5.3	5.2	5.5	9.3	3.8	11.6	7.6	8.6	8.4	8.8	6.9	7.4	8.9	7.4		
6	CML202/CML395/INTA/INTB-B-194-B-2-1-B	108	18	3.1	3.0	3.3	1.4	2.6	3.2	2.1	6.8	4.6	4.6	6.8	8.0	4.6	12.4	6.9	8.0	4.6	7.5	7.4	6.3	7.4			
24	CML442/CML444/INTA/INTB-B-52B-1-1-B	108	17	2.2	2.1	2.2	1.6	3.2	4.5	1.9	7.8	6.1	5.4	7.1	9.6	4.0	14.4	6.4	7.1	3.6	8.5	6.3	7.4	8.9	7.4		
7	CML202/CML395/INTA/INTB-B-41B-1-1-B	106	17	2.6	2.7	2.6	1.5	3.0	3.4	2.5	6.3	4.5	4.1	2.7	9.0	5.0	12.6	7.9	9.9	6.1	10.5	5.2	6.3	7.4			
32	CML442/CML444/INTA/INTB-B-9-B-10-1-B	104	19	2.3	2.5	2.0	1.3	3.6	4.8	2.5	6.2	5.1	3.8	4.7	8.4	4.4	11.2	7.2	8.4	5.9	7.0	7.4	6.3	7.4			
25	CML442/CML444/INTA/INTB-B-55B-2-1-B	104	21	3.3	2.5	4.0	1.6	3.3	5.0	1.7	6.2	4.0	3.9	7.5	6.8	4.7	10.6	5.6	6.8	3.9	6.1	5.7	6.3	7.4			
39	H513	104	20	1.7	1.2	2.2	1.9	4.6	3.9	5.3	6.3	5.5	3.3	5.2	9.6	2.6	11.5	6.6	6.8	4.8	7.3	7.7	6.3	7.4			
4	CML202/CML395/INTA/INTB-B-162-B-1-1-B	102	17	2.0	1.9	2.1	2.1	3.2	4.2	2.3	6.6	3.6	2.1	5.5	9.5	5.2	14.0	7.2	7.3	3.8	10.2	7.3	6.3	7.4			
13	CML442/CML444/ICKL0506	101	20	1.6	1.2	2.0	1.9	3.8	4.4	3.2	6.2	5.0	4.1	5.4	8.3	4.6	10.0	6.7	8.0	4.5	7.9	6.6	6.3	7.4			
31	CML442/CML444/INTA/INTB-B-55B-11-1-B	100	21	1.6	1.4	1.8	3.0	3.4	4.5	2.3	6.2	5.1	5.3	2.4	8.6	4.5	11.3	5.9	7.0	3.7	7.1	5.9	6.3	7.4			
35	KSH516	96	24	2.4	0.9	4.0	0.4	3.9	3.3	4.6	5.6	6.6	2.8	4.7	6.3	3.0	10.4	6.9	6.2	5.2	8.8	7.4	6.3	7.4			
2	CML202/CML395/ICKL05024	95	21	1.0	0.2	1.9	1.2	2.7	3.3	2.1	6.4	4.3	3.3	5.9	8.1	5.7	11.4	8.2	9.1	7.6	9.6	6.5	6.3	7.4			
12	CML442/CML444/ICKL05005	94	24	2.2	1.2	3.2	1.3	3.5	5.2	1.7	5.9	3.6	3.9	4.7	8.2	3.6	11.2	6.6	6.8	5.6	9.2	4.8	6.3	7.4			
1	CML202/CML395/ICKL05005	91	24	1.3	0.3	2.4	0.9	3.6	3.3	4.0	5.7	4.6	3.6	5.2	7.1	4.4	9.0	6.8	6.4	6.3	7.8	6.8	6.3	7.4			
8	CML202/CML395/INTA/INTB-B-52B-1-1-B	91	27	1.9	1.7	2.0	1.9	2.7	3.9	1.6	5.9	4.2	4.3	4.1	8.5	3.6	10.6	6.0	6.7	3.7	8.4	5.0	6.3	7.4			
21	CML442/CML444/INTA/INTB-B-215-B-5-1-B	89	27	1.0	1.6	1.3	1.9	2.6	3.4	1.9	6.1	4.4	3.5	7.3	6.3	4.3	10.7	5.7	6.4	3.2	6.7	6.5	6.3	7.4			
5	CML202/CML395/INTA/INTB-B-161-B-8-1-B	84	29	1.0	0.7	1.4	1.6	2.8	3.2	2.4	6.0	4.3	3.1	4.6	8.9	3.5	11.4	5.8	6.1	3.4	7.6	6.1	6.3	7.4			
40	LOCAL CHECK	83	26	0.6	0.2	1.1	1.0	1.0	3.2	3.3	5.8	3.7	2.0	3.7	8.8	4.0	12.8	7.1	8.8	3.9	9.7	5.9	6.3	7.4			
Maturity group average																											
2.0			11	2.0	1.6	2.3	1.5	3.4	4.0	2.8	6.3	4.8	3.9	5.1	8.3	4.2	11.7	6.8	7.6	4.8	8.4	6.3	6.3	7.4			
Entries with anthesis dates between 75 and 76 days																											
17	CML442/CML444/ICKL05018	117	11	2.6	0.6	4.5	1.5	3.8	4.3	3.4	7.6	6.3	4.0	6.8	9.4	4.3	15.0	8.4	7.9	7.1	10.8	7.8	6.3	7.4			
18	CML442/CML444/ICKL05022	116	13	2.4	0.8	3.9	1.8	5.0	5.1	4.9	7.2	6.5	2.9	3.9	11.1	5.6	13.5	7.6	9.0	5.7	10.4	5.3	6.3	7.4			
28	CML202/CML395/INTA/INTB-B-160-B-2-1-B	110	16	2.8	1.0	4.6	2.2	2.4	3.5	1.4	7.0	6.4	3.3	7.0	9.3	4.1	11.9	7.7	8.1	5.7	9.8	7.4	6.3	7.4			
16	CML442/CML444/ICKL05017	108	15	1.9	1.2	2.5	1.2	4.6	5.9	3.3	6.7	5.6	2.8	4.8	11.1	4.3	11.8	8.1	8.8	7.1	10.4	6.0	6.3	7.4			

ECA-1LHT09

Grain yield of 36 intermediate to late maturing three way cross hybrids across 18 sites in Eastern and Southern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 1B

Entry	Pedigree	RelGY	Across	Rank	StdDev	Dry Mid Alt MDS			Lowland Tropical Dry MDS			Wet Upper Mid Alt RDS			Wet Lower Mid Alt OPT			Wet Upper Mid Alt OPT											
						Across		Kiboko Ken	Across		Chiredzi Zim	Across		Elgon Downs Ken	Across		Embu Ken	Across		AFSF-Arusha Tan	Selian Tan		Bulindi Uga	Across		Embu Ken	Across		Kakamega Ken
						GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha	GY	u/ha
9	CML202/CML395/INTA/INTB-B-86-B-1-B	105	19	10	3.1	2.6	3.6	0.9	0.9	3.8	4.6	3.0	6.6	5.7	4.2	5.7	7.9	4.2	11.8	6.0	6.9	5.2	9.2	2.8					
26	CML442/CML444/INTA/INTB-B-86-B-1-B	104	19	11	2.6	2.4	2.8	1.5	1.5	2.7	3.8	1.5	7.3	6.4	4.8	5.8	10.7	4.4	11.9	5.9	6.8	3.7	6.7	6.4					
30	CML442/CML444/INTA/INTB-B-160-B-4-1-B	101	21	10	2.6	2.6	2.6	0.8	0.8	3.4	4.0	2.8	6.5	4.9	4.3	6.0	6.9	4.1	12.6	6.3	6.8	4.5	9.0	5.0					
15	CML442/CML444/ICKL05015	98	19	8	1.7	1.3	2.1	1.6	1.6	2.9	3.8	2.0	6.6	5.2	4.7	3.6	9.1	4.5	12.6	7.0	8.1	5.8	8.7	5.6					
22	CML442/CML444/INTA/INTB-B-33-B-11-1-B	95	20	11	0.9	0.3	1.5	1.9	1.9	3.1	4.8	1.5	6.7	6.0	4.4	5.1	9.1	4.3	11.5	6.9	7.3	3.8	8.9	7.6					
38	WH605	94	22	11	1.1	1.3	1.0	1.1	1.1	3.0	3.1	3.0	6.6	4.6	5.5	5.3	9.2	3.3	11.5	6.9	7.1	4.5	9.7	6.2					
20	CML442/CML444/INTA/INTB-B-152-B-1-1-B	92	25	11	2.0	2.4	1.7	0.2	0.2	2.6	3.3	1.8	6.5	4.6	5.1	4.6	8.3	5.7	10.9	6.2	6.5	4.3	8.9	5.3					
14	CML442/CML444/ICKL05010	89	24	9	1.4	0.4	2.5	1.1	1.1	2.7	3.3	2.1	6.4	3.9	3.5	5.4	9.6	3.8	12.0	6.8	6.7	5.3	9.2	6.0					
19	CML442/CML444/ICKL05024	78	28	11	0.7	0.3	1.1	0.4	0.4	2.8	3.8	1.9	5.2	2.6	3.5	4.9	8.2	4.3	7.8	6.8	6.1	6.0	6.9	8.0					
37	WH403	57	36	7	1.7	1.1	2.3	1.3	1.3	1.6	2.2	1.1	3.2	1.6	2.1	2.2	4.2	1.7	7.7	3.9	4.3	2.4	3.4	5.6					
Maturity group average					2.0	1.3	2.6	1.3	1.3	3.2	3.9	2.4	6.4	5.0	3.9	5.1	8.8	4.2	11.6	6.8	7.2	5.1	8.7	6.1					
Entries with anthesis dates equal to 77 days																													
11	CML442/CML444/ICKL05004	126	11	10	3.1	3.1	3.1	2.4	2.4	3.8	4.1	3.5	7.9	6.8	4.2	8.3	10.1	5.1	12.9	6.9	7.8	6.6	8.5	4.7					
10	CML442/CML444/ICKL05003	123	12	11	3.1	1.4	4.8	2.8	2.8	4.3	5.0	3.6	7.0	6.3	3.4	4.5	10.9	4.5	12.5	8.0	10.7	6.9	9.2	5.3					
36	KSH520	95	21	12	1.7	0.5	2.8	1.8	1.8	3.1	3.7	2.5	6.0	5.6	2.5	4.4	9.0	2.7	11.9	7.6	8.3	5.4	11.9	4.8					
Maturity group average					2.6	1.7	3.6	2.3	2.3	3.7	4.3	3.2	7.0	6.2	3.4	5.7	10.0	4.1	12.4	7.5	8.9	6.3	9.9	4.9					
Mean		100	20	10	2.04	1.54	2.54	1.48	1.48	3.36	4.08	2.64	6.40	4.94	3.89	5.21	8.58	4.17	11.62	6.83	7.51	5.01	8.64	6.18					
LSD (0.05)		13	5	2	1.11	1.28	1.84	1.49	1.37	1.27	1.54	2.07	0.96	2.12	1.70	2.89	3.02	1.22	2.74	1.03	1.64	2.29	2.10	2.34					
Min		57	11	7	0.64	0.16	1.01	0.23	0.23	1.62	2.15	1.08	3.23	1.58	2.01	2.20	4.15	1.66	7.69	3.93	4.31	2.35	3.44	2.80					
Max		126	36	14	3.30	3.11	4.78	2.98	2.98	5.50	5.90	5.34	7.89	6.76	5.79	8.31	11.10	5.69	14.97	8.56	10.70	7.60	11.93	10.40					
NumSignificantSites		15	15	15	2	1	1	1	1	2	1	1	6	1	1	1	1	1	1	4	1	1	1	1	1				

ECA-ILVT09

Grain yield and other agronomic traits of 21 intermediate to late maturing varietal hybrids across 15 sites in Eastern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 2A

Dry Mid Alt Wet Upper Wet Lower Wet Upper
MDS Mid Alt RDS Mid Alt OPT Mid Alt OPT

Entry	Pedigree	Across		Across		Anth	AS	Plant	Plant	Ear	Ear	Position	Lodging		Ears/Plant	usk	Ear	GLS	P.sorg	Eturc	Grain	Ear	Plant	
		Relgy	Rank	GY	t/ha								GY	t/ha										Stem
%	Avg	StdDev	t/ha	t/ha	t/ha	d	d	cm	cm	cm	cm	0-1	%	%	#	%	%	1-5	1-5	1-5	1-5	1-5	1-5	1-5
Entries with anthesis date between 72 and 73 days																								
5	ECAVL1/ECAVL18	110	12	7	1.9	3.1	4.8	7.2	73	3	182	90	0.5	17	0.8	4	9	2.2	1.8	2.3	2.4	2.7	2.4	
21	ECAVL18/NIP25	109	12	9	2.1	2.5	4.9	7.4	73	3	185	89	0.5	10	0.8	1	11	2.2	2.0	2.2	2.2	2.6	2.7	
11	ECAVL2/NIP25	109	10	5	1.5	3.0	4.9	7.6	73	4	177	82	0.5	12	0.7	1	11	2.3	2.1	2.2	2.2	2.6	2.6	
6	ECAVL1/NIP25	100	16	7	1.6	2.6	4.4	6.9	73	4	173	91	0.5	12	0.8	2	16	2.5	2.4	2.5	1.9	2.9	2.8	
13	ECAVL16/ECAVL17	95	18	7	1.2	2.8	5.2	6.0	73	5	184	93	0.5	9	0.7	2	8	2.3	1.9	2.8	2.3	2.9	2.9	
2	ECAVL1/ECAVL16	92	19	7	1.1	2.5	5.2	5.9	72	5	178	101	0.5	6	0.7	2	8	2.4	2.1	2.8	2.1	2.8	2.8	
15	ECAVL16/NIP25	91	21	6	1.5	2.6	4.5	5.7	73	4	170	88	0.5	14	0.8	2	9	2.4	2.2	2.6	1.8	2.7	2.9	
28	NIP25-#	81	25	4	1.0	2.1	4.3	5.3	73	3	158	69	0.5	10	0.8	1	16	2.7	2.3	2.4	1.9	3.0	3.0	
Maturity group average																								
					1.5	2.6	4.8	6.5	73	4	176	88	0.5	11	0.8	2	11	2.4	2.1	2.5	2.1	2.8	2.8	
Entries with anthesis date between 74 and 75 days																								
10	ECAVL2/ECAVL18	124	5	2	2.2	3.7	5.3	7.9	74	4	175	93	0.5	18	0.8	0	9	2.3	1.9	2.1	2.5	2.7	2.7	
1	ECAVL1/ECAVL2	116	9	8	2.0	3.0	5.1	7.8	75	4	179	90	0.5	11	0.9	3	10	2.2	2.0	2.1	2.4	2.6	2.6	
9	ECAVL2/ECAVL17	116	8	4	1.8	3.1	5.0	8.0	75	4	174	81	0.5	8	0.8	2	8	2.1	1.8	2.1	2.3	2.6	2.7	
17	ECAVL16-STR/ECAVL18	113	8	5	1.7	3.3	5.2	7.5	75	3	180	94	0.6	10	0.7	2	9	2.2	1.8	2.3	2.7	2.8	2.8	
19	ECAVL17/ECAVL18	112	11	7	1.9	3.0	5.0	7.4	74	5	188	89	0.5	10	0.8	6	7	2.2	1.7	2.6	2.4	2.7	2.6	
7	ECAVL2/ECAVL16	107	12	5	1.5	3.2	5.0	7.0	74	5	187	95	0.5	11	0.8	1	8	2.2	2.3	2.4	1.7	2.6	2.9	
3	ECAVL1/ECAVL16-STR	107	12	4	1.7	2.8	4.9	7.2	74	3	178	92	0.5	10	0.7	3	12	1.8	2.2	2.4	2.6	2.8	2.7	
20	ECAVL17/NIP25	104	12	8	1.2	3.1	4.0	7.6	74	5	165	73	0.4	9	0.7	2	12	2.2	1.8	2.4	2.6	2.7	2.9	
16	ECAVL16-STR/ECAVL17	101	16	7	1.4	2.6	4.8	7.1	75	5	190	89	0.5	10	0.7	6	11	1.8	1.9	2.5	2.3	2.8	2.5	
4	ECAVL1/ECAVL17	100	17	4	1.4	2.9	4.5	6.6	74	4	176	83	0.5	9	0.7	4	8	2.3	1.8	2.6	2.6	2.8	2.7	
27	ECAVL18-#	98	17	9	1.6	2.7	4.9	6.1	75	3	178	88	0.5	26	0.8	4	11	2.4	1.5	2.3	2.4	3.1	2.7	
18	ECAVL16-STR/NIP25	95	18	8	1.0	2.6	4.4	6.5	74	5	165	86	0.5	9	0.7	1	11	2.4	2.3	2.4	2.0	2.8	2.9	
12	ECAVL16/ECAVL16-STR	93	19	5	1.2	2.4	5.0	6.1	74	5	180	86	0.5	10	0.8	1	6	2.3	2.5	2.6	2.1	2.8	2.8	
14	ECAVL16/ECAVL18	91	20	8	0.9	2.8	4.1	6.5	74	6	170	93	0.6	10	0.8	1	6	2.3	1.8	2.7	1.7	2.6	2.8	
26	ECAVL17-#	80	25	4	0.7	2.2	4.2	5.5	75	8	158	70	0.5	7	0.6	2	14	2.2	2.2	2.5	2.7	3.1	2.8	
24	ECAVL16-#	76	24	10	1.0	2.5	4.7	4.2	74	5	175	88	0.5	15	0.7	2	8	2.6	2.4	3.0	2.1	3.1	3.1	
Maturity group average																								
					1.5	2.9	4.8	6.8	74	5	176	87	0.5	11	0.7	3	9	2.2	2.0	2.4	2.3	2.8	2.8	

ECA-ILVT09

Grain yield and other agronomic traits of 21 intermediate to late maturing varietal hybrids across 15 sites in Eastern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 2A

Dry Mid Alt Wet Lower Wet Upper
MDS Mid Alt RDS Mid Alt OPT Mid Alt OPT

Entry	Pedigree	Across		Relgy	Across		Rank	Across		GY	Across		Date	AS	Plant eight	Ear eight	Ear Position	Lodging Stem	Ears/ Plant	usk Cover	Ear Rot	GLS	P.sorg	Eturc	Grain Text	Ear Aspect	Plant Aspect
		Avg	StdDev		t/ha	GY		t/ha	GY		t/ha	GY															
Entries with anthesis date equal to 76 days																											
8	ECAVL2/ECAVL16-STR	118	8	8	2.0	3.1	5.0	8.2	76	4	177	92	0.6	11	0.8	2	12	1.9	2.3	2.4	2.3	1.5	1.5	1.5	2.6	2.8	2.6
23	ECAVL2#	110	13	8	2.3	3.1	4.6	6.9	76	4	178	96	0.6	13	0.7	1	21	2.2	2.1	2.1	2.0	1.5	1.5	2.7	2.7	2.9	
30	Local Check	94	16	12	1.1	2.3	4.4	7.2	76	3	214	113	0.6	16	0.7	0	11	1.7	2.1	2.1	2.0	1.5	1.5	3.0	2.8	2.8	
25	ECAVL16-STR#	93	19	7	1.0	2.6	4.9	6.3	76	4	183	97	0.5	13	0.7	4	9	2.0	2.4	2.4	2.4	1.5	1.5	2.5	3.0	2.7	
22	ECAVL1#	84	22	6	1.0	2.5	4.7	5.0	76	4	182	91	0.5	9	0.7	1	20	2.2	2.0	2.0	2.4	1.5	1.5	2.6	3.0	2.9	
29	CM1202/CM1395/CM1312-RE	79	21	11	1.4	1.4	4.9	5.1	76	4	180	83	0.5	12	0.7	0	16	1.6	2.0	2.0	2.2	1.5	1.5	2.5	2.7	2.8	
Maturity group average					1.5	2.5	4.8	6.4	76	4	185	96	0.5	12	0.7	1	15	1.9	2.2	2.2	2.2	1.5	1.5	2.7	2.8	2.8	
Mean		100	16	7	1.47	2.74	4.76	6.66	74.3	4.2	178.0	88.8	0.53	11.5	0.74	2.1	11.0	2.2	2.1	2.1	2.4	1.5	1.5	2.3	2.8	2.8	
LSD (0.05)		13	6	2	0.79	0.71	0.84	0.82	0.8	1.6	14.6	10.4	0.08	5.8	0.09	2.1	5.0	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	
Min		76	5	2	0.72	1.43	4.02	4.24	72.5	2.6	157.6	69.2	0.44	6.0	0.62	0.0	6.0	1.6	1.5	2.0	2.0	1.5	1.5	1.7	2.6	2.4	
Max		124	25	12	2.32	3.69	5.27	8.19	76.4	7.5	213.9	113.5	0.63	26.1	0.88	6.4	21.5	2.7	2.5	3.0	3.0	3.0	3.0	3.0	3.1	3.1	
NumSignificantSites		9	9	9	1	2	2	4	7	4	3	4	2	2	3	2	4	2	2	2	2	2	2	3	4	5	

ECA-ILVT09

Grain yield of 21 intermediate to late maturing varietal hybrids across 15 sites in Eastern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 2B

Entry	Pedigree	Dry Mid Alt MDS			Wet Upper Mid Alt RDS			Wet Lower Mid Alt OPT			Wet Upper Mid Alt OPT				
		Across	Kiboko Ken	Across	Eilgon Downs Ken	Bumula Ken	Across	Weruweru Tan	Namulonge Uga	Across	Kakamega Ken	Kakamega Ken	Bako Eth		
Relgy	Across	Rank	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	
%	Avg	StdDev													
Entries with anthesis date between 72 and 73 days															
5	ECAVL1/ECAVL18	110	1.9	1.9	3.1	3.6	2.6	4.8	5.7	3.8	7.2	6.0	5.5	8.8	8.5
21	ECAVL18/NIP25	109	2.1	2.1	2.5	1.9	3.1	4.9	5.5	4.3	7.4	8.2	6.1	8.0	7.5
11	ECAVL2/NIP25	109	1.5	1.5	3.0	2.7	3.2	4.9	5.5	4.3	7.6	7.6	5.3	8.5	9.0
6	ECAVL1/NIP25	100	1.6	1.6	2.6	2.0	3.2	4.4	4.8	4.0	6.9	6.2	4.7	8.3	8.6
13	ECAVL16/ECAVL17	95	1.2	1.2	2.8	2.7	2.9	5.2	6.1	4.4	6.0	5.4	3.9	6.9	7.9
2	ECAVL1/ECAVL16	92	1.1	1.1	2.5	2.3	2.7	5.2	6.1	4.4	5.9	5.6	3.8	6.5	7.6
15	ECAVL16/NIP25	91	1.5	1.5	2.6	3.0	2.2	4.5	5.3	3.7	5.7	5.4	4.0	7.0	6.4
28	NIP25#	81	1.0	1.0	2.1	1.9	2.4	4.3	4.5	4.1	5.3	5.6	4.0	6.1	5.6
Maturity group average															
			1.5	1.5	2.6	2.5	2.8	4.8	5.4	4.1	6.5	6.2	4.7	7.5	7.6
Entries with anthesis date between 74 and 75 days															
10	ECAVL2/ECAVL18	124	2.2	2.2	3.7	2.9	4.5	5.3	6.1	4.4	7.9	7.4	6.0	9.6	8.9
1	ECAVL1/ECAVL2	116	2.0	2.0	3.0	2.7	3.4	5.1	5.0	5.2	7.8	7.8	6.0	9.6	7.9
9	ECAVL2/ECAVL17	116	1.8	1.8	3.1	2.8	3.4	5.0	5.9	4.1	8.0	7.4	6.4	9.5	8.6
17	ECAVL16-STR/ECAVL18	113	1.7	1.7	3.3	3.2	3.3	5.2	5.8	4.5	7.5	7.0	4.6	9.7	8.6
19	ECAVL17/ECAVL18	112	1.9	1.9	3.0	3.6	2.5	5.0	5.7	4.4	7.4	8.1	4.7	9.1	7.7
7	ECAVL2/ECAVL16	107	1.5	1.5	3.2	2.8	3.6	5.0	5.9	4.1	7.0	6.5	5.0	7.7	8.6
3	ECAVL1/ECAVL16-STR	107	1.7	1.7	2.8	2.8	2.9	4.9	5.4	4.4	7.2	7.3	5.2	7.8	8.4
20	ECAVL17/NIP25	104	1.2	1.2	3.1	3.0	3.2	4.0	3.7	4.4	7.6	7.2	5.1	9.3	8.6
16	ECAVL16-STR/ECAVL17	101	1.4	1.4	2.6	3.0	2.1	4.8	5.3	4.2	7.1	7.2	4.8	9.2	7.2
4	ECAVL1/ECAVL17	100	1.4	1.4	2.9	2.7	3.1	4.5	5.1	3.9	6.6	5.9	4.9	7.8	8.0
27	ECAVL18#	98	1.6	1.6	2.7	3.1	2.2	4.9	5.2	4.6	6.1	5.9	4.2	8.1	6.2
18	ECAVL16-STR/NIP25	95	1.0	1.0	2.6	2.7	2.5	4.4	4.4	4.5	6.5	6.4	5.3	7.5	6.9
12	ECAVL16/ECAVL16-STR	93	1.2	1.2	2.4	2.3	2.6	5.0	6.1	3.9	6.1	6.5	4.5	6.9	6.7
14	ECAVL16/ECAVL18	91	0.9	0.9	2.8	3.0	2.5	4.1	5.0	3.1	6.5	5.4	4.3	8.1	8.4
26	ECAVL17#	80	0.7	0.7	2.2	2.2	2.3	4.2	5.4	3.0	5.5	5.2	4.5	6.2	6.2
24	ECAVL16#	76	1.0	1.0	2.5	2.0	2.9	4.7	6.6	2.8	4.2	3.8	2.5	4.6	6.1
Maturity group average															
			1.5	1.5	2.9	2.8	2.9	4.8	5.4	4.1	6.8	6.6	4.9	8.2	7.7

ECA-ILVT09

Grain yield of 21 intermediate to late maturing varietal hybrids across 15 sites in Eastern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 2B

Entry	Pedigree	Dry Mid Alt MDS			Wet Upper Mid Alt RDS			Wet Lower Mid Alt OPT			Wet Upper Mid Alt OPT																											
		Across	Rank	Avg	Across	Kiboko Ken	GY	t/ha	Across	Eilgon Downs Ken	GY	t/ha	Across	Kakamega Ken	GY	t/ha	Across	Kakamega Ken	GY	t/ha	Across	Kakamega Ken	GY	t/ha	Across	Kakamega Ken	GY	t/ha	Across	Kakamega Ken	GY	t/ha	Across	Kakamega Ken	GY	t/ha	Across	Kakamega Ken
Entries with anthesis date equal to 76 days																																						
8	ECAVL2/ECAVL16-STR	118	8	8	2.0	2.0	3.1	2.7	3.5	5.0	6.0	3.9	8.2	7.1	6.5	10.0	9.2																					
23	ECAVL2-#	110	13	8	2.3	2.3	3.1	2.7	3.4	4.6	5.8	3.5	6.9	6.4	5.6	8.9	6.7																					
30	Local Check	94	16	12	1.1	1.1	2.3	2.8	1.8	4.4	6.4	2.5	7.2	5.2	4.9	10.0	8.9																					
25	ECAVL16-STR-#	93	19	7	1.0	1.0	2.6	2.6	2.7	4.9	6.2	3.6	6.3	6.1	4.2	7.2	7.6																					
22	ECAVL1-#	84	22	6	1.0	1.0	2.5	1.9	3.2	4.7	5.5	4.0	5.0	5.6	3.4	4.7	6.2																					
29	CML202/CML395/CML312-RE	79	21	11	1.4	1.4	1.4	1.2	1.6	4.9	5.3	4.4	5.1	8.5	2.7	5.0	4.2																					
Maturity group average																																						
					1.5	1.5	2.5	2.3	2.7	4.8	5.9	3.6	6.4	6.5	4.6	7.6	7.1																					
					1.47	1.47	2.74	2.63	2.85	4.76	5.52	4.01	6.66	6.46	4.75	7.88	7.56																					
	LSD (0.05)				0.79	0.79	0.71	0.92	1.07	0.84	1.24	1.24	0.82	1.21	1.11	1.85	2.12																					
	Min				0.72	0.72	1.43	1.22	1.63	4.02	3.68	2.48	4.24	3.76	2.48	4.63	4.15																					
	Max				2.32	2.32	3.69	3.64	4.49	5.27	6.63	5.20	8.19	8.55	6.53	9.99	9.15																					
	NumSignificantSites	9	9	9	1	1	2	1	1	2	1	1	4	1	1	1	1																					

ECA-QHT09

Grain yield and other agronomic traits of 42 intermediate to late maturing three way QPM hybrids across 16 sites in Eastern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 3A

Dry Mid Alt MDS Wet Upper Mid Alt OPT Wet Lower Mid Alt OPT

Entry	Pedigree	Across		RelGY	Rank	GY	t/ha	StDev	t/ha	GY	t/ha	AS	Plant	Lodging	Ears/ Plant	GLS	P-song	E.turc	Leaf	Grain	Ear	Plant
		%	Avg																			
Entries with anthesis date between 69 and 72 days																						
36	ECA-MOROSRBC1F2-6-ECAVEE6FL15QPMCTSRC1F2/POOL15QPMRSR-B-88-B-B-B/CML181/CML182	117	15	11	2.4	7.3	4.1	71	0	174	6	1.2	1.9	1.8	2.1	4.8	1.7	3.1	2.2	2.2	2.2	2.2
5	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS461-B-7-B-B-B/CML511	111	18	9	1.9	7.1	4.0	72	0	157	9	1.1	1.2	2.7	2.4	5.6	1.4	2.8	2.3	2.3	2.3	2.3
12	Pool15QPMFS461-B-7-B-B-B/Pool15QPMFS594-B-1-B-B-B/CML511	107	23	15	1.9	6.3	4.2	72	0	167	7	2.2	1.4	2.2	2.4	6.0	1.3	2.8	2.3	2.3	2.3	2.3
35	ECA-MOROSRBC1F2-4-ECAVEE6FL15QPMCTSRC1F2/POOL15QPMRSR-B-15-B-B-B/CML181/CML182	100	25	14	1.3	6.4	4.0	71	0	161	10	1.1	1.1	1.8	2.5	4.8	1.4	3.5	2.4	2.4	2.4	2.4
40	CML140/CML144/CML159/POOL15QPMRSR-B-28-B-B-B/CML181/CML182	97	19	15	0.7	8.0	3.6	71	1	164	3	9	1.7	1.7	2.3	6.1	2.3	3.3	2.4	2.4	2.4	2.4
37	CML212/CML144/CML159/POOL15QPMRSR-B-41-B-B-B/CML181/CML182	95	27	14	0.9	7.1	3.5	69	0	135	10	9	3.2	1.9	2.3	7.0	2.4	3.3	2.9	2.9	2.9	2.9
8	Pool15QPMFS324-B-3-B-B-B/Pool15QPMFS461-B-7-B-B-B/CML511	95	25	10	1.4	6.3	3.7	72	0	170	7	1.3	1.3	2.3	2.5	5.9	1.3	2.7	2.2	2.2	2.2	2.2
24	ECA-MOROSRBC1F2-6-ECAVEE6FL15QPMCTSRC1F2/POOL15QPMRSR-B-97-B-B-B/CML144/CML159	95	28	10	1.0	7.0	3.3	70	0	125	9	1.2	1.5	2.2	2.1	6.4	1.8	2.9	2.6	2.6	2.6	2.6
3	Pool15QPMFS80-B-2-B-B-B/Pool15QPMFS761-B-2-B-B-B/CML511	94	28	10	1.5	6.5	3.4	72	1	158	4	6	1.1	1.4	2.3	2.5	6.6	1.3	2.6	2.5	2.5	2.5
34	CML216/CML144/CML159/POOL15QPMRSR-B-32-B-B-B/CML181/CML182	92	26	16	1.6	7.0	2.7	71	0	152	4	8	1.2	2.3	2.0	2.4	5.4	2.1	3.1	2.3	2.3	2.3
4	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS324-B-3-B-B-B/CML511	90	31	10	1.5	6.2	3.1	72	1	164	4	8	1.1	1.4	2.4	2.6	6.1	1.3	3.0	2.2	2.2	2.2
28	ECA-EE-DLN-PL1 - 1/PL15QPMCTSRC1F2/POOL15QPMRSR-B-37-B-B-B/CML144/CML159	88	32	9	1.4	6.0	3.2	72	-1	163	19	18	1.0	1.5	2.2	2.3	5.4	1.3	2.9	2.8	2.8	2.8
Maturity group average																						
Entries with anthesis date between 73 and 75 days																						
41	CML144/CML159/CML182	128	7	11	1.2	9.1	5.1	74	0	164	5	25	1.4	2.7	1.8	2.0	5.6	1.7	3.1	2.5	2.5	2.5
10	Pool15QPMFS440-B-5-B-B-B/CML159/CML511	122	12	14	2.3	7.1	4.6	75	0	159	18	12	1.1	1.4	2.3	2.2	5.0	1.4	2.9	2.5	2.5	2.5
7	Pool15QPMFS309-B-1-B-B-B/CML159/CML511	117	10	6	1.6	7.8	4.6	73	-1	155	12	9	1.0	1.8	2.4	2.5	5.4	1.5	2.7	2.3	2.3	2.3
9	Pool15QPMFS440-B-5-B-B-B/Pool15QPMFS462-B-4-B-B-B/CML511	112	17	11	1.9	7.3	4.0	73	-1	154	8	8	1.1	1.4	2.3	2.2	4.6	1.3	2.7	2.6	2.6	2.6
1	Pool15QPMFS538-B-3-B-B-5-1-4-B/Pool15QPMFS80-B-2-B-B-B/CML511	111	22	14	2.7	6.9	3.4	73	0	156	4	9	1.2	2.6	2.2	5.2	1.3	3.0	2.6	2.6	2.6	2.6
15	Pool15QPMFS462-B-4-B-B-B/CML159/CML511	110	15	10	1.6	7.3	4.2	75	0	159	1	8	1.2	1.7	2.3	1.9	4.7	1.4	2.8	2.2	2.2	2.2
17	SYNTHSRPL15QPMCTSRC1F2/POOL15QPMRSR-B-48-B-1-B/CML144/CML159	108	23	13	2.4	6.9	3.3	74	-1	159	4	9	1.1	2.2	2.5	2.4	5.6	1.4	2.8	2.7	2.7	2.7
33	CML216/CML144/CML159/POOL15QPMRSR-B-32-B-3-B/CML181/CML182	107	17	12	1.4	7.2	4.1	74	0	154	7	15	1.2	1.9	1.8	1.9	5.8	1.5	3.1	2.3	2.3	2.3
39	Pool15QPMFS538-B-3-B-7-1-1-B/CML181/CML182	106	18	10	1.2	8.0	3.7	73	0	177	9	6	1.3	2.4	2.1	2.2	5.9	1.7	3.1	2.1	2.1	2.1
27	ECA-MOROSRBC0F2-9FL15QPMCTSRC1F2/POOL15QPMRSR-B-27-B-B-B/CML144/CML159	106	19	10	1.7	7.4	3.4	73	-1	152	14	14	1.2	1.9	2.0	2.5	6.7	1.5	2.8	2.3	2.3	2.3
6	Pool15QPMFS309-B-1-B-B-B/CML144/CML511	105	19	12	1.5	7.5	3.6	74	-1	159	6	8	1.1	1.8	2.4	2.7	6.3	1.4	2.9	2.8	2.8	2.8
38	Pool15QPMFS538-B-3-B-5-1-1-B/CML181/CML182	105	18	15	1.2	7.3	4.1	73	0	166	4	11	1.1	2.7	2.2	2.1	5.8	1.7	2.8	2.2	2.2	2.2
2	Pool15QPMFS80-B-2-B-B-B/Pool15QPMFS461-B-7-B-B-B/CML511	105	21	11	1.6	7.4	3.4	73	-1	151	6	18	1.2	1.5	2.4	2.4	5.7	1.3	2.7	2.3	2.3	2.3
25	LLSYNTH1PL15QPMCTSRC1F2/POOL15QPMRSR-B-1-B-B-B/CML144/CML159	104	20	16	2.0	7.1	3.5	73	0	174	22	10	1.4	2.2	2.3	2.2	6.5	1.3	2.6	2.2	2.2	2.2
16	Pool15QPMFS593-B-1-B-B-B/CML144/CML511	104	19	14	1.3	6.8	4.2	75	-1	140	13	23	1.2	1.9	2.5	2.3	5.1	1.3	2.6	2.3	2.3	2.3

ECA-QHT09

Grain yield of 42 intermediate to late maturing three way QPM hybrids across 16 sites in Eastern Africa, 2009.
MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 3B

Entry	Pedigree	Dry Mid Alt MDS						Wet Upper Mid Alt OPT						Wet Lower Mid Alt OPT					
		Across		Rank	StdDev	Kiboko Ken		Kakamega Ken		Bako Eth		Across		Namulonge Uga		Selian Tan			
		RelGY	%			GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha		
Entries with anthesis date between 69 and 72 days																			
36	ECA-MOROR(BIC)1F2-6-ECAVEE(PL150)PWC7SRC1F2//POOL150PMSRB-88-B-B/CML181/CML182	117	15	11	2.4	2.4	7.3	6.7	6.2	8.9	4.1	5.4	2.9						
5	Pool150PMSF309B-1-B-B-B/Pool150PMS461-B-7-B-B-B/CML511	111	18	9	1.9	1.9	7.1	6.6	6.4	8.2	4.0	4.6	3.4						
12	Pool150PMSF346-1-B-B-B/Pool150PMSF594-B-1-B-B-B/CML511	107	23	15	1.9	1.9	6.3	5.4	6.0	7.5	4.2	4.7	3.7						
35	ECA-MOROR(BIC)1F2-4-ECAVEE(PL150)PWC7SRC1F2//POOL150PMSRB-15-B-B/CML181/CML182	100	25	14	1.3	1.3	6.4	6.4	7.2	5.6	4.0	4.2	3.8						
40	CML440/CML144/CML159/POOL150PMSR-B-29-B-B-B/CML181/CML182	97	19	15	0.7	0.7	8.0	7.2	7.4	9.4	3.6	4.9	2.3						
37	CML212/CML144/CML159/POOL150PMSR-B-41-B-B-B/CML181/CML182	95	27	14	0.9	0.9	7.1	5.7	8.0	7.6	3.5	3.8	3.1						
8	Pool150PMSF324-B-3-B-B-B/Pool150PMSF461-B-7-B-B-B/CML511	95	25	10	1.4	1.4	6.3	4.0	6.9	8.0	3.7	4.7	2.7						
24	ECA-MOROR(BIC)1F2-6-ECAVEE(PL150)PWC7SRC1F2//POOL150PMSRB-97-B-B-B/CML144/CML159	95	28	10	1.0	1.0	7.0	6.9	6.4	7.9	3.3	3.5	3.1						
3	Pool150PMSF80-B-2-B-B-B/Pool150PMSF761-B-2-B-B-B/CML511	94	28	10	1.5	1.5	6.5	5.6	6.1	7.8	3.4	4.9	2.0						
34	CML216/CML144/CML159/POOL150PMSR-B-32-B-B-B/CML181/CML182	92	26	16	1.6	1.6	7.0	5.2	7.6	8.4	2.7	3.9	1.5						
4	Pool150PMSF309B-1-B-B-B/Pool150PMSF324-B-3-B-B-B/CML511	90	31	10	1.5	1.5	6.2	6.7	5.7	6.3	3.1	4.3	1.9						
28	ECA-EE-DLN-PL1-1/PL150PWC7SRC1F2//POOL150PMSR-B-37-B-B-B/CML144/CML159	88	32	9	1.4	1.4	6.0	6.0	6.2	5.9	3.2	4.6	1.8						
Maturity group average																			
Entries with anthesis date between 73 and 75 days																			
41	CML144/CML159/CML182	128	7	11	1.2	1.2	9.1	7.8	9.8	9.8	5.1	6.2	4.0						
10	Pool150PMSF440-B-5-B-B-B/CML159/CML511	122	12	14	2.3	2.3	7.1	5.2	7.4	8.8	4.6	5.4	3.9						
7	Pool150PMSF309B-1-B-B-B/CML159/CML511	117	10	6	1.6	1.6	7.8	7.5	7.5	8.2	4.6	5.8	3.5						
9	Pool150PMSF440-B-5-B-B-B/Pool150PMSF462-B-4-B-B-B/CML511	112	17	11	1.9	1.9	7.3	8.3	6.9	6.8	4.0	4.7	3.2						
1	Pool150PMSF338-B-3-B-B-B/Pool150PMSF80-B-2-B-B-B/CML511	111	22	14	2.7	2.7	6.9	6.4	5.8	8.4	3.4	4.5	2.3						
11	Pool150PMSF462-B-4-B-B-B/CML159/CML511	110	15	10	1.6	1.6	7.3	5.6	7.2	9.0	4.2	5.1	3.3						
17	SYNTHSRPL150PWC7SRC1F2//POOL150PMSR-B-48-B-1-B/CML144/CML159	108	23	13	2.4	2.4	6.9	6.9	6.0	7.9	3.3	4.4	2.2						
33	CML216/CML144/CML159/POOL150PMSR-B-32-B-B-B/CML181/CML182	107	17	12	1.4	1.4	7.2	7.5	7.5	6.5	4.1	4.9	3.3						
39	Pool150PMSF338-B-3-B-B-B/Pool150PMSR-B-27-B-B-B/CML144/CML159	106	18	10	1.2	1.2	8.0	7.0	7.2	9.7	3.7	4.3	3.1						
27	ECA-MOROR(BIC)1F2-9/PL150PWC7SRC1F2//POOL150PMSR-B-27-B-B-B/CML144/CML159	106	19	10	1.7	1.7	7.4	7.0	6.8	8.3	3.4	3.6	3.2						
6	Pool150PMSF309B-1-B-B-B/CML144/CML511	105	19	12	1.5	1.5	7.5	9.0	7.1	6.6	3.6	4.8	2.4						
38	Pool150PMSF338-B-3-B-B-B/Pool150PMSR-B-27-B-B-B/CML181/CML182	105	18	15	1.2	1.2	7.3	5.1	8.4	8.4	4.1	4.8	3.4						
2	Pool150PMSF80-B-2-B-B-B/Pool150PMSF461-B-7-B-B-B/CML511	105	21	11	1.6	1.6	7.4	7.7	7.2	7.3	3.4	3.9	2.9						
25	LLSYNTH1/PL150PWC7SRC1F2//POOL150PMSR-B-1-B-B-B/CML144/CML159	104	20	16	2.0	2.0	7.1	5.5	6.4	9.4	3.5	5.0	1.9						
16	Pool150PMSF594-B-1-B-B-B/CML144/CML511	104	19	14	1.3	1.3	6.8	4.5	7.2	8.6	4.2	4.8	3.6						
29	Pool150PMSF794-B-4-B-B-B/CML144/CML159	103	24	12	1.1	1.1	7.5	8.7	6.5	7.2	3.7	4.4	3.1						

ECA-QHT09

Grain yield of 42 intermediate to late maturing three way QPM hybrids across 16 sites in Eastern Africa, 2009.
MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 3B

Entry	Pedigree	Dry Mid Alt MDS						Wet Upper Mid Alt OPT						Wet Lower Mid Alt OPT					
		Across		Kiboko Ken		Across		Kakamega Ken		Kakamega Ken		Bako Eth		Across		Namulonge Uga		Selian Tan	
		RelCY	Rank	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha	GY	t/ha
		%	Avg	StdDev															
11	Poof15QPMFS461-B-7-B-B-B/B/Pool15QPMFS462-B-4-B-B-B/C/ML511	101	26	16	1.8	1.8	7.2	8.6	5.7	7.3	3.1	4.3	1.9						
19	SYNTHSRPL15QPMCTSRC:F2/POOL15QPMRSR-B-48-B-3-B/C/ML144/CML159	99	23	10	1.2	1.2	7.6	7.8	6.6	8.4	3.4	4.4	2.3						
22	ECA-EE-DLN-PL1-1/PL15QPMCTSRC:F2/POOL15QPMRSR-B-16-B-B-B/C/ML144/CML159	96	26	9	1.0	1.0	7.0	6.4	6.6	8.0	3.6	3.9	3.2						
20	SYNTHSRPL15QPMCTSRC:F2/POOL15QPMRSR-B-48-B-5-B/C/ML144/CML159	95	29	14	1.7	1.7	6.1	6.3	5.8	6.3	3.2	3.2	3.2						
23	SYNTHSRPL15QPMCTSRC:F2/POOL15QPMRSR-B-74-B-B-B/C/ML144/CML159	95	26	10	1.6	1.6	7.1	6.2	7.1	8.1	2.9	4.3	1.5						
21	SYNTHSRPL15QPMCTSRC:F2/POOL15QPMRSR-B-48-B-7-B/C/ML144/CML159	95	27	8	1.4	1.4	7.0	6.4	7.1	7.4	3.0	3.5	2.7						
31	Pool15QPMFS598-B-3-B-5-1-1-B/C/ML144/CML159	95	24	14	0.8	0.8	6.8	6.3	7.5	6.6	4.0	5.3	2.0						
32	Pool15QPMFS598-B-3-B-7-1-1-B/C/ML144/CML159	91	28	9	1.0	1.0	7.2	7.3	6.2	7.9	3.2	4.5	2.0						
30	Pool15QPMFS12-B-2-B-B-B-B-B/C/ML144/CML159	87	30	12	0.8	0.8	6.7	7.5	6.5	6.0	3.1	4.0	2.3						
18	SYNTHSRPL15QPMCTSRC:F2/POOL15QPMRSR-B-48-B-2-B/C/ML144/CML159	86	34	6	1.3	1.3	6.6	6.0	5.9	7.8	2.7	3.6	1.7						
45	H513	85	26	21	1.7	1.7	7.0	3.5	8.3	9.2	1.9	2.5	1.2						
Maturity group average																			
Entries with anthesis date between 76 and 78 days																			
43	CML144/CML159/CML511	115	15	13	1.2	1.2	8.1	8.1	8.2	8.0	4.8	6.7	2.9						
13	Pool15QPMFS461-B-7-B-B-B/B/Pool15QPMFS462-B-4-B-B-B/C/ML144/CML1511	100	24	14	1.4	1.4	7.2	6.3	5.6	9.8	3.6	4.6	2.5						
14	Pool15QPMFS462-B-4-B-B-B/B/Pool15QPMFS461-B-7-B-B-B/C/ML144/CML1511	97	19	14	0.7	0.7	7.8	6.5	7.8	8.4	3.9	5.3	2.6						
42	CML144/CML159/CML176	85	32	12	1.5	1.5	6.6	5.3	6.3	8.3	2.3	2.9	1.6						
26	CML221/CML144/CML159/POOL15QPMRSR-B-8-B-B-B/C/ML144/CML159	82	30	15	0.5	0.5	6.7	7.4	6.8	5.9	3.2	4.8	1.6						
44	WH403	62	38	9	1.1	1.1	4.4	6.4	2.8	3.8	1.6	1.0	2.2						
Maturity group average																			
Mean		100	23	12	1.44	1.44	7.03	6.52	6.80	7.77	3.54	4.42	2.66						
LSD (0.05)		12	7	3	0.93	0.93	1.25	2.54	1.77	2.24	1.00	1.33	1.50						
Min		62	7	6	0.48	0.48	4.36	3.50	2.85	3.84	1.59	1.01	1.16						
Max		128	38	21	2.65	2.65	9.13	8.95	9.82	9.85	5.14	6.74	4.04						
NumSignificantSites		6	6	6	1	1	3	1	1	1	2	1	1						

Grain yield and other agronomic traits of 22 early maturing varietal hybrids across 15 sites in Eastern Africa, 2009.

MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 4A

Dry Mid Wet Upper Wet Lower Dry Upper
 Alt Mid Alt Mid Alt Mid Alt Opt Alt Opt
 MDS RDS GY GY GY GY GY GY GY GY

Entry	Pedigree	Across	Across		Across		Across		Plant	Ear	Lodging	Stem		Plant	Cover	Ear	P_sorg	E_turc	Ear	Plant									
			GY	t/ha	GY	t/ha	GY	t/ha				GY	t/ha								%	#	%	%	%	%	%		
RelGY	Rank	%	Avg	StdDev	GY	t/ha	GY	t/ha	Plant	eight	cm	Plant	eight	cm	Position	Ear	0-1	Lodging	Root	%	#	%	Cover	Ear	%	Plant	Aspect	Plant	Aspect
Entries with anthesis date equal to 57 days																													
23 KATUMANI																													
Maturity group average																													
Entries with anthesis dates between 60 - 61 days																													
1	ZIMLINE/KAT	BCI	-8	SYNTH2006	2.6	3.3	4.0	5.9	5.7	60	4	236	108	0.5	10	8	1.0	18	0	23	2.5	2.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7
3	ZIMLINE/KAT	BCI	-13	SYNTH2006	1.2	3.5	4.3	6.0	6.0	61	4	242	120	0.5	16	5	1.0	15	0	1.8	2.1	2.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9
7	ZIMLINE/MORO	BCI	-24	SYNTH2006	2.4	4.3	3.5	5.6	5.1	60	3	222	120	0.5	19	8	1.0	18	0	2.2	2.4	2.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9
5	ZIMLINE/KAT	BCI	-25	SYNTH2006	1.6	4.2	4.1	5.5	6.0	61	4	243	133	0.4	17	11	0.9	17	1	2.0	2.3	2.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8
2	ZIMLINE/KAT	BCI	-10	SYNTH2006	2.1	3.8	3.5	5.7	4.7	60	2	237	103	0.5	15	9	1.0	15	1	2.0	2.4	2.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1
6	ZIMLINE/MORO	BCI	-1	SYNTH2006	1.6	4.4	3.6	5.7	4.3	60	3	217	100	0.5	10	11	1.1	18	6	2.2	2.4	2.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9
8	M37/MORO	BCI	-1	SYNTH2006	1.6	3.5	3.4	5.1	6.6	60	3	239	103	0.5	22	10	1.1	21	4	1.8	2.4	2.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7
4	ZIMLINE/KAT	BCI	-15	SYNTH2006	1.3	3.9	3.5	5.2	4.5	60	3	222	115	0.5	17	9	1.0	39	8	2.0	2.3	2.6	2.2	2.2	2.2	2.2	2.2	2.2	2.2
17	M37/MORO	BCI	-5	#	1.4	3.2	2.9	4.9	5.3	61	3	227	78	0.6	14	10	1.1	14	0	2.0	2.5	2.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6
14	ZIMLINE/KAT	BCI	-15	#	1.0	3.3	3.0	5.1	4.8	61	4	233	105	0.5	16	14	1.0	22	3	2.3	2.3	2.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0
9	M37/MORO	BCI	-5	SYNTH2006	1.6	3.7	2.6	5.1	4.9	61	3	220	88	0.5	14	16	1.0	20	1	2.0	2.2	2.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7
21	SYNTH2006	1.7	2.5	2.9	4.9	3.8	60	3	205	105	0.5	16	22	0.5	16	22	1.0	11	3	2.3	2.4	2.8	1.5	1.5	1.5	1.5	1.5	1.5	
16	M37/MORO	BCI	-1	#	1.3	2.9	2.8	4.9	5.3	61	3	204	95	0.5	17	14	1.1	14	3	2.0	2.5	2.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7
89	ECA-EE-55	1.3	3.9	3.1	4.7	4.3	61	2	209	105	0.5	16	14	0.5	16	14	0.9	16	1	2.0	2.5	2.6	1.7	1.7	1.7	1.7	1.7	1.7	
10	AMSECA/KAT	BCI	-2	SYNTH2006	1.7	2.5	2.7	4.7	5.2	60	4	228	115	0.5	27	10	1.1	9	10	2.3	2.6	2.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1
19	ZIMLINE/MORO	BCI	-1	#	1.0	4.2	3.1	4.8	4.1	61	4	223	113	0.4	13	9	1.0	16	0	2.3	2.4	2.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8
18	AMSECA/KAT	BCI	-2	#	1.2	2.5	2.9	4.6	4.0	60	5	247	115	0.5	16	19	1.0	21	4	2.0	2.6	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Maturity group average																													
Entries with anthesis date 62 days																													
15	ZIMLINE/KAT	BCI	-25	#	1.1	3.9	3.4	5.4	4.0	62	4	220	98	0.5	14	8	1.0	23	0	1.5	2.4	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
11	ZIMLINE/KAT	BCI	-6	#	1.5	2.9	3.2	5.5	5.2	61	2	230	103	0.5	7	10	0.9	23	3	2.2	2.0	2.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
20	ZIMLINE/MORO	BCI	-24	#	1.4	3.5	3.4	4.6	4.8	62	6	215	93	0.5	22	11	1.0	8	5	2.2	2.6	2.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9
13	ZIMLINE/KAT	BCI	-13	#	1.0	3.4	3.3	5.0	4.2	62	5	203	100	0.6	18	11	1.1	19	1	2.0	2.1	2.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
12	ZIMLINE/KAT	BCI	-10	#	1.5	3.9	2.7	4.8	3.7	62	3	231	108	0.5	12	13	1.0	15	4	2.3	2.0	2.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Maturity group average																													
Entries with anthesis dates between 66 - 69 days																													
24	DUMA43	1.8	4.5	4.9	8.4	7.0	66	6	284	113	0.5	1	5	1.0	32	1	1.7	1.5	2.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	
25	Local check	1.2	4.2	3.6	8.4	3.9	69	5	253	155	0.4	18	8	1.1	13	3	1.5	1.6	2.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Maturity group average																													
Mean		1.46	3.54	3.31	5.35	4.81	61.2	3.7	227.2	107.1	0.48	15.5	11.1	0.88	17.9	2.9	2.0	2.3	2.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
LSD (0.05)		0.76	0.88	0.69	0.98	1.0	1.6	25.5	29.4	0.09	7.3	5.9	0.4	6.5	5.0	0.4	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Min		0.95	2.53	2.57	3.29	2.57	56.6	1.8	202.6	77.5	0.40	0.9	4.6	0.70	7.8	0.0	1.5	1.5	2.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Max		2.60	4.46	4.85	8.42	6.90	63.3	6.3	263.8	155.0	0.60	27.5	21.6	1.05	38.9	9.8	2.3	2.6	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
NumSignificantSites		10	10	10	10	1	12	2	1	1	1	3	3	1	3	1	1	1	2	7	2	2	2	2	2	2	2	2	2

ECA-EV709

Grain yield of 22 early maturing varietal hybrids across 15 sites in Eastern Africa, 2009.
MDS= Managed Drought Stress; RDS= Random Drought Stress; OPT= Optimum (well-fertilized/rainfed) management

TABLE 4B

Entry	Pedigree	Across	Dry Mid Alt MDS			Wet Upper Mid Alt RDS			Wet Lower Mid Alt OPT			Wet Upper Mid Alt OPT			Dry Mid Alt OPT				
			Across	Kiboko Ken	Across	Elgon Downs Ken	Across	Embu Ken	Veruweru Tan	Ngaita Uga	Across	Kakamega Ken	Bungoma Ken	Bungoma Ken	Bakoo Eth	Across	Melkasa Eth		
RelGY	Rank	GY	GY	t/ha	GY	GY	t/ha	GY	GY	t/ha	GY	GY	t/ha	GY	GY	t/ha	GY	GY	t/ha
%	Avg	StdDev	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha	t/ha
Entries with anthesis date equal to 57 days																			
23 KATUMANI																			
Maturity group average																			
Entries with anthesis dates between 60 - 61 days																			
122	8	6	2.6	2.6	3.3	3.3	4.0	4.5	4.3	3.2	5.9	8.1	4.4	6.5	4.7	5.7	5.7	5.7	5.7
114	7	5	1.2	1.2	3.5	3.5	4.3	5.0	5.5	2.3	6.0	7.3	5.3	5.2	5.3	6.0	6.0	6.0	6.0
114	8	7	2.4	2.4	4.3	4.3	3.5	4.2	4.1	2.2	5.6	6.7	5.4	4.8	5.6	5.1	5.1	5.1	5.1
112	7	4	1.6	1.6	4.2	4.2	4.1	5.5	4.5	2.2	5.5	7.1	3.9	5.3	5.6	6.0	6.0	6.0	6.0
110	9	4	2.1	2.1	3.8	3.8	3.5	4.3	4.4	2.0	5.7	6.6	4.9	5.9	4.6	4.7	4.7	4.7	4.7
106	8	6	1.6	1.6	4.4	4.4	3.6	5.1	4.3	1.5	5.7	6.8	4.8	5.6	5.6	4.3	4.3	4.3	4.3
106	11	6	1.6	1.6	3.5	3.5	3.4	4.2	3.6	2.5	5.1	6.4	4.7	5.6	3.9	6.6	6.6	6.6	6.6
100	12	5	1.3	1.3	3.9	3.9	3.5	4.5	4.0	1.9	5.2	6.0	5.3	5.2	4.4	4.5	4.5	4.5	4.5
93	16	5	1.4	1.4	3.2	3.2	2.9	3.6	3.5	1.8	4.9	5.6	4.2	5.0	4.9	5.3	5.3	5.3	5.3
91	16	5	1.0	1.0	3.3	3.3	3.0	3.6	3.6	1.8	5.1	5.6	4.3	5.5	4.9	4.8	4.8	4.8	4.8
91	15	6	1.6	1.6	3.7	3.7	2.6	3.9	3.2	0.7	5.1	6.3	3.9	5.9	4.4	4.9	4.9	4.9	4.9
91	17	7	1.7	1.7	2.5	2.5	2.9	3.8	2.9	2.1	4.9	6.0	4.6	4.5	4.5	3.8	3.8	3.8	3.8
89	16	7	1.3	1.3	2.9	2.9	2.8	4.8	2.5	1.2	4.9	6.2	4.7	5.1	3.8	5.3	5.3	5.3	5.3
89	16	6	1.3	1.3	3.9	3.9	3.1	4.5	3.7	1.1	4.7	6.1	2.9	4.8	5.0	4.3	4.3	4.3	4.3
89	17	6	1.7	1.7	2.5	2.5	2.7	3.1	3.5	1.5	4.7	5.7	3.6	5.4	4.2	5.2	5.2	5.2	5.2
89	16	7	1.0	1.0	4.2	4.2	3.1	4.1	3.9	1.3	4.8	6.7	3.3	5.3	3.9	4.1	4.1	4.1	4.1
85	18	5	1.2	1.2	2.5	2.5	2.9	3.1	3.8	1.8	4.6	5.1	3.7	5.3	4.4	4.0	4.0	4.0	4.0
Maturity group average																			
Entries with anthesis date 62 days																			
98	13	7	1.1	1.1	3.9	3.9	3.4	3.9	4.4	2.0	5.4	6.5	5.0	4.8	5.2	4.0	4.0	4.0	4.0
97	12	6	1.5	1.5	2.9	2.9	3.2	4.6	3.8	1.2	5.5	7.6	4.8	4.9	4.8	5.2	5.2	5.2	5.2
95	14	6	1.4	1.4	3.5	3.5	3.4	4.4	3.8	2.1	4.6	4.9	3.2	4.8	5.4	4.8	4.8	4.8	4.8
91	16	4	1.0	1.0	3.4	3.4	3.3	4.4	3.7	1.7	5.0	6.6	4.0	5.3	4.0	4.2	4.2	4.2	4.2
88	17	6	1.5	1.5	3.9	3.9	2.7	3.2	3.1	1.7	4.8	7.0	2.8	5.0	4.3	3.7	3.7	3.7	3.7
Maturity group average																			
Entries with anthesis dates between 66 - 69 days																			
149	2	1	1.8	1.8	4.5	4.5	4.9	6.0	4.6	4.0	8.4	10.6	8.0	8.6	6.6	7.0	7.0	7.0	7.0
124	10	9	1.2	1.2	4.2	4.2	3.6	6.1	2.9	1.7	8.4	7.1	7.4	8.5	10.6	3.9	3.9	3.9	3.9
Maturity group average																			
100	13	6	1.46	1.46	3.54	3.54	3.31	4.26	3.81	1.87	5.35	6.50	4.47	5.49	4.94	4.81	4.81	4.81	4.81
16	5	2	0.76	0.77	0.88	0.88	0.69	1.40	1.27	0.97	0.79	1.38	2.16	1.26	1.47	0.98	0.98	0.98	0.98
69	2	1	0.95	0.95	2.53	2.53	2.57	2.36	2.55	0.65	3.29	3.73	3.00	3.14	2.57	2.57	2.57	2.57	2.57
149	22	9	2.60	2.60	4.46	4.46	4.85	6.12	5.52	3.95	8.42	10.56	8.00	8.55	10.55	6.96	6.96	6.96	6.96
10	10	10	1	1	1	1	3	1	1	1	4	1	1	1	1	1	1	1	1

ECA-ILHT09

Agronomic traits of 36 intermediate to late maturing three way cross hybrids tested at 18 sites in Eastern and Southern Africa, 2009. TABLE 1C

Entry	Pedigree	Across			Embu Kenya			AFSF-Arushu Tanzania			Selian Tanzania			Bulindi Uganda			Across		
		RelGY	Rank	StdDev	Anth Date	usk Cover	GLS	Anth Date	Ear eight	Looding Root	P.sorg	Grain Text	Anth Date	E.turc	Grain Text	Ear Aspect	Anth Date		
		%	Avg		d	%	1-5	d	cm	%	1-5	d	1-5	1-5	1-5	d			
Entries with anthesis dates between 71 and 72 days																			
29	CML442/CML444//INTA/INTB-B-11-B-8-1-B	107	19	11	73	7	1.0	74	58	8	1.8	63	2.6	2.7	2.9	71			
27	CML202/CML395//INTA/INTB-B-11-B-8-1-B	103	19	12	71	10	1.3	77	78	20	1.8	65	1.9	2.3	3.1	71			
3	CML202/CML395//INTA/INTB-B-102-B-6-1-B	99	23	8	74	9	1.2	75	66	20	2.0	65	2.1	2.4	2.7	72			
33	CML442/CML444//INTA/INTB-B-121-B-5-1-B	91	25	10	72	8	1.5	76	62	9	2.0	64	2.2	2.7	3.0	72			
Maturity group average					73	8	1.2	76	66	14	1.9	64	2.2	2.5	2.9	72			
Entries with anthesis dates between 73 and 74 days																			
23	CML442/CML444//INTA/INTB-B-41-B-1-1-B	120	13	13	76	7	1.5	77	84	19	2.0	66	2.1	3.0	3.0	74			
34	CML442/CML444//INTA/INTB-B-41-B-14-1-B	113	15	10	76	9	1.5	77	72	11	2.0	65	1.8	3.8	3.1	73			
6	CML202/CML395//INTA/INTB-B-194-B-2-1-B	109	18	11	75	10	1.3	74	79	15	2.0	65	1.9	2.2	2.8	73			
24	CML442/CML444//INTA/INTB-B-52-B-1-1-B	108	17	11	76	7	1.5	77	72	7	2.0	66	2.5	3.2	3.0	74			
7	CML202/CML395//INTA/INTB-B-41-B-1-1-B	106	17	11	74	9	1.5	78	50	21	1.3	66	1.9	3.0	2.6	73			
32	CML442/CML444//INTA/INTB-B-9-B-10-1-B	104	19	8	75	9	1.5	79	51	7	2.0	65	3.0	1.4	2.9	74			
25	CML442/CML444//INTA/INTB-B-55-B-2-1-B	104	21	13	75	11	1.5	75	58	1	2.0	66	3.6	2.7	2.9	73			
39	H513	104	20	11	73	11	1.5	77	82	0	2.3	65	2.3	2.6	2.6	73			
4	CML202/CML395//INTA/INTB-B-162-B-1-1-B	102	17	12	77	11	1.0	78	69	4	1.8	66	1.7	1.9	2.1	74			
13	CML442/CML444//ICKL05006	101	20	9	74	11	1.5	76	66	2	2.0	64	2.5	2.7	2.5	74			
31	CML442/CML444//INTA/INTB-B-55-B-11-1-B	100	21	11	74	8	1.5	76	70	15	2.0	65	2.7	3.5	3.0	73			
35	KSH516	96	24	14	75	12	1.5	78	82	26	1.8	65	1.8	2.9	3.0	74			
2	CML202/CML395//ICKL05024	95	21	13	77	9	1.5	79	84	26	2.0	66	1.5	2.4	2.2	74			
12	CML442/CML444//ICKL05005	94	24	10	75	11	1.2	78	61	0	1.8	64	2.0	3.0	3.0	74			
1	CML202/CML395//ICKL05005	91	24	11	74	13	1.5	77	64	17	2.0	65	1.6	2.1	2.9	73			
8	CML202/CML395//INTA/INTB-B-52-B-1-1-B	91	27	8	76	9	1.2	78	67	20	2.0	65	1.9	2.9	2.9	74			
21	CML442/CML444//INTA/INTB-B-215-B-5-1-B	89	27	10	76	7	1.5	76	64	3	1.8	66	2.9	3.0	3.0	73			
5	CML202/CML395//INTA/INTB-B-161-B-8-1-B	84	29	8	74	11	1.3	77	71	12	2.0	64	1.9	2.5	2.8	73			
40	LOCAL CHECK	83	26	12	74	12	1.5	78	67	4	1.5	67	1.4	2.0	2.1	73			
Maturity group average					75	10	1.4	77	69	11	1.9	65	2.2	2.7	2.8	74			

ECA-ILHT09

Agronomic traits of 36 intermediate to late maturing three way cross hybrids tested at 18 sites in Eastern and Southern Africa, 2009. TABLE 1C

Entry	Across			Embu Kenya			AFSF-Arushu Tanzania			Selian Tanzania			Bulindi Uganda			Across		
	Pedigree	RelGY	Rank	Anth Date	usk Cover	GLS	Anth Date	Ear eight	Looding Root	P.sorg	Grain Text	Anth Date	E.turc	Grain Text	Ear Aspect	Anth Date		
	%	Avg	StdDev	d	%	1-5	d	cm	%	1-5	1-5	d	1-5	1-5	1-5	d		
Entries with anthesis dates between 75 and 76 days																		
17 CML442/CML444/CKL05018	117	11	9	78	9	1.5	92	80	10	1.8	2.1	67	1.5	2.7	2.2	75		
18 CML442/CML444/CKL05022	116	13	13	78	16	1.5	93	72	0	1.5	2.1	68	1.5	2.9	2.2	76		
28 CML202/CML395/JNTA/INTB-B-160-B-2-1-B	110	16	11	78	9	1.5	92	73	26	2.0	1.6	67	2.0	2.6	2.6	75		
16 CML442/CML444/CKL05017	108	15	11	76	12	1.2	91	74	0	1.5	2.0	67	1.7	2.5	2.5	75		
9 CML202/CML395/JNTA/INTB-B-86-B-6-1-B	105	19	10	79	10	1.5	91	74	0	2.0	1.8	65	2.2	2.9	2.7	75		
26 CML442/CML444/JNTA/INTB-B-86-B-6-1-B	104	19	11	77	8	1.0	92	54	3	2.0	2.8	69	2.8	3.0	3.0	76		
30 CML442/CML444/JNTA/INTB-B-160-B-4-1-B	101	21	10	77	9	1.5	91	68	0	2.0	1.9	67	2.4	2.8	3.1	75		
15 CML442/CML444/CKL05015	98	19	8	78	9	1.5	90	66	8	1.8	2.4	67	1.9	3.2	3.0	76		
22 CML442/CML444/JNTA/INTB-B-33-B-11-1-B	95	20	11	78	11	1.5	90	54	0	1.8	2.4	68	2.4	3.7	3.0	75		
38 WH505	94	22	11	79	12	1.3	92	75	19	1.8	1.9	68	2.4	3.3	2.6	76		
20 CML442/CML444/JNTA/INTB-B-152-B-1-1-B	92	25	11	76	8	1.5	90	78	0	2.3	2.2	66	2.5	2.5	3.0	75		
14 CML442/CML444/CKL05010	89	24	9	78	11	1.3	92	47	0	1.5	2.0	68	2.1	3.1	2.6	76		
19 CML442/CML444/CKL05024	78	28	11	78	9	1.0	90	69	4	1.8	2.9	68	1.5	3.0	3.0	75		
37 WH403	57	36	7	84	24	1.2	89	40	10	2.0	2.7	65	2.1	2.2	2.4	76		
Maturity group average																		
Entries with anthesis dates equal to 77 days																		
11 CML442/CML444/CKL05004	126	11	10	80	16	1.3	93	75	7	2.0	2.4	67	2.2	2.5	2.5	77		
10 CML442/CML444/CKL05003	123	12	11	80	9	1.5	91	67	4	2.3	2.5	68	2.4	2.3	2.3	77		
36 KSH520	95	21	12	79	10	1.0	90	93	19	1.5	1.2	68	1.3	2.7	2.7	77		
Maturity group average																		
Mean	100	20	10	76.3	10.3	1.4	90.1	68.4	9.3	1.9	2.0	66.1	2.1	2.7	2.7	74.2		
LSD (0.05)	13	5	2	2.8	5.9	0.4	2.0	21.1	16.1	0.4	0.6	2.0	0.8	0.8	0.6	0.8		
Mln	57	11	7	71.3	7.1	1.0	86.8	39.6	0.0	1.3	1.2	63.0	1.3	1.4	2.1	70.6		
Max	126	36	14	84.5	24.2	1.5	92.7	93.5	26.5	2.3	3.0	69.0	3.6	3.8	3.1	77.1		
NumSignificantSites	15	15	15	1	1	1	1	1	1	1	1	1	1	1	1	13		

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Agronomic traits of 21 intermediate to late maturing varietal hybrids tested at 15 sites in Eastern Africa, 2009.

TABLE 2C

Entry	Pedigree	Weruweru Tanzania					Kiboko Kenya					Ngetta Uganda					Elgon Downs Kenya					Across
		Anth	AS	E.turc	Grain	Plant	Anth	AS	Ears/	usk	Ear	Ear	Rot	Grain	Text	Aspect	Anth	Date	P.sorg	E.turc	Anth	
Relgy	Across	Rank	StdDev	d	d	d	d	#	%	Position	%	%	1-5	1-5	1-5	1-5	d	d	1-5	1-5	d	d
Entries with anthesis date between 72 and 73 days																						
5	ECAVL1/ECAVL18	110	12	7	59	2.6	1.7	2.0	2.0	2.0	68	6	0.4	5	0.5	3	3.0	3.0	3.2	88	1.8	73
21	ECAVL18/NIP25	109	12	9	58	2.5	1.9	2.6	2.1	2.1	68	5	0.5	1	0.5	11	3.2	2.0	3.2	87	2.3	73
11	ECAVL2/NIP25	109	10	5	59	2.9	1.6	2.4	2.0	2.0	69	7	0.3	1	0.6	7	3.0	2.3	2.8	86	2.1	73
6	ECAVL1/NIP25	100	16	7	58	2.9	2.0	1.6	2.2	2.2	67	5	0.5	1	0.5	6	4.1	2.1	3.0	87	2.8	73
13	ECAVL16/ECAVL17	95	18	7	59	2.2	1.8	2.5	1.8	1.8	67	12	0.3	0	0.5	7	3.9	2.5	3.0	86	2.1	73
2	ECAVL1/ECAVL16	92	19	7	58	1.6	1.5	1.9	1.8	1.8	66	15	0.3	0	0.5	6	4.2	2.5	3.0	86	2.1	72
15	ECAVL16/NIP25	91	21	6	59	1.8	1.8	2.6	2.0	2.0	68	9	0.4	1	0.5	0	3.6	1.0	2.8	87	2.5	73
28	NIP25-#	81	25	4	59	2.9	2.4	1.9	2.6	2.6	69	6	0.3	1	0.5	7	3.2	1.7	3.0	87	2.5	73
Maturity group average																						
Entries with anthesis date between 74 and 75 days																						
10	ECAVL2/ECAVL18	124	5	2	58	1.9	1.6	2.9	1.8	1.8	69	7	0.5	0	0.5	8	3.2	2.6	3.2	90	2.3	74
1	ECAVL1/ECAVL2	116	9	8	59	3.9	1.6	2.1	2.0	2.0	69	10	0.5	0	0.6	6	3.3	2.9	3.0	89	2.0	75
9	ECAVL2/ECAVL17	116	8	4	60	2.6	1.8	2.6	2.0	2.0	70	11	0.4	0	0.5	6	3.0	2.1	3.0	89	1.8	75
17	ECAVL16-STRECAVL18	113	8	5	58	2.8	1.9	3.0	2.0	2.0	69	9	0.4	0	0.5	8	3.1	3.0	3.0	88	1.9	75
19	ECAVL17/ECAVL18	112	11	7	58	3.2	1.9	1.9	1.8	1.8	68	10	0.4	4	0.5	3	4.0	3.0	3.0	89	1.9	74
7	ECAVL2/ECAVL16	107	12	5	60	2.5	1.6	2.5	1.7	1.7	68	11	0.4	0	0.5	5	3.5	1.0	3.0	86	2.6	74
3	ECAVL1/ECAVL16-STR	107	12	4	58	3.1	1.7	3.1	2.0	2.0	70	6	0.4	1	0.5	5	3.6	2.4	3.2	88	2.3	74
20	ECAVL17/NIP25	104	12	8	61	4.2	1.7	3.4	2.0	2.0	69	12	0.3	0	0.5	9	4.1	2.3	3.0	86	2.0	74
16	ECAVL16-STRECAVL17	101	16	7	57	2.4	2.0	2.3	2.0	2.0	70	12	0.3	0	0.5	8	3.7	2.4	3.0	90	2.2	75
4	ECAVL1/ECAVL17	100	17	4	58	2.4	1.8	2.2	2.0	2.0	69	11	0.3	3	0.5	0	4.1	3.2	3.0	88	2.0	74
27	ECAVL18-#	98	17	9	58	3.2	1.6	2.6	1.8	1.8	69	8	0.5	2	0.6	16	3.3	2.6	3.2	89	1.5	75
18	ECAVL16-STR/NIP25	95	18	8	58	3.2	2.2	1.6	2.0	2.0	69	11	0.3	1	0.5	16	3.4	2.4	3.2	87	2.6	74
12	ECAVL16/ECAVL16-STR	93	19	5	59	2.4	1.7	2.1	2.0	2.0	68	13	0.3	0	0.6	5	4.0	2.0	3.0	88	3.1	74
14	ECAVL16/ECAVL18	91	20	8	58	3.3	2.0	1.8	2.0	2.0	68	13	0.3	0	0.6	6	4.0	1.6	2.8	88	2.0	74
26	ECAVL17-#	80	25	4	59	2.6	1.7	2.2	2.1	2.1	70	19	0.2	0	0.5	8	4.4	3.4	3.7	89	2.3	75
24	ECAVL16-#	76	24	10	61	3.2	1.6	2.9	1.8	1.8	68	13	0.4	2	0.6	6	4.6	1.4	3.3	87	2.7	74
Maturity group average																						

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Agronomic traits of 21 intermediate to late maturing varietal hybrids tested at 15 sites in Eastern Africa, 2009.

TABLE 2C

Entry	Pedigree	Weruweru Tanzania					Kiboko Kenya					Ngetta Uganda					Elgon Downs Kenya					Across					
		Anth	AS	E.turc	Grain	Plant	Anth	AS	Ears/Plant	usk	Cover	Position	Rot	Ear	E.turc	Grain	Text	Aspect	Ear	Anth	P.org		E.turc	Anth	Date		
Relgy	Across	Rank	StdDev	d	d	d	d	d	#	%	%	%	%	%	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	d		
Entries with anthesis date equal to 76 days																											
	8 ECAVL2/ECAVL16-STR	118	8	8	60	2.2	1.6	2.8	2.0	2.0	71	13	0.4	1	0.5	21	3.4	2.8	3.0	3.0	89	2.8	1.8	76			
	23 ECAVL2#	110	13	8	60	2.9	1.5	3.3	1.8	1.8	70	8	0.5	1	0.6	21	3.0	2.8	3.0	3.0	90	2.2	1.5	76			
	30 Local Check	94	16	12	60	3.2	1.4	3.5	2.0	2.0	68	4	0.3	0	0.6	12	3.0	3.4	3.2	87	2.2	1.4	76				
	25 ECAVL16-STR#	93	19	7	59	2.2	1.8	2.7	2.0	2.0	70	9	0.3	0	0.5	3	3.3	2.7	3.2	91	2.7	1.6	76				
	22 ECAVL1#	84	22	6	61	3.1	1.6	2.5	2.0	2.0	69	8	0.4	0	0.5	3	3.0	3.1	3.0	88	2.4	1.8	76				
	29 CML202/CML395/CML312-RE	79	21	11	59	2.5	1.9	2.9	2.0	2.0	69	10	0.3	0	0.5	28	2.9	2.5	3.0	91	2.3	1.3	76				
	Maturity group average				60	2.7	1.6	3.0	2.0	2.0	70	9	0.4	0	0.5	15	3.1	2.9	3.1	89	2.4	1.6	76				
	Mean	100	16	7	58.9	2.7	1.8	2.5	2.0	2.0	68.7	9.7	0.36	0.8	0.52	8.3	3.5	2.4	3.1	88.1	2.3	1.5	74.3				
	LSD (0.05)	13	6	2	1.6	1.2	0.4	0.7	0.3	0.3	1.5	5.4	0.15	2.5	0.09	13.5	1.0	0.6	0.3	2.5	0.7	0.4	0.8				
	Min	76	5	2	57.3	1.6	1.4	1.6	1.7	1.6	66.3	4.0	0.23	0.0	0.46	0.0	2.9	1.0	2.8	85.5	1.5	1.2	72.5				
	Max	124	25	12	61.3	4.2	2.4	3.5	2.6	2.6	70.7	18.6	0.48	4.5	0.62	28.4	4.6	3.4	3.7	91.5	3.1	2.0	76.4				
	NumSignificantSites	9	9	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7			

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Agronomic traits of 21 intermediate to late maturing varietal hybrids tested at 15 sites in Eastern Africa, 2009.

TABLE 2C

Entry	Pedigree	Nanulonge Uganda					Kakamega Kenya					Across						
		Relgy	Across Rank	Plant eight cm	Ear eight cm	E.turc 1-5	Grain Text 1-5	Anth Date d	AS d	Plant eight cm	Ear eight cm	Ear Position 0-1	GLS 1-5	P.sorg 1-5	E.turc 1-5	Plant Aspect 1-5	Anth Date	
% Avg StdDev																		
Entries with anthesis date between 72 and 73 days																		
5	ECAVL1/ECAVL18	110	12	7	150	59	2.9	2.3	73	0	235	135	0.6	2.5	1.8	2.5	2.5	73
21	ECAVL18/NIP25	109	12	9	155	63	2.2	2.0	74	0	242	127	0.5	2.7	1.7	2.0	2.8	73
11	ECAVL2/NIP25	109	10	5	145	53	2.4	2.0	74	1	232	104	0.5	2.8	2.0	2.1	3.0	73
6	ECAVL1/NIP25	100	16	7	132	55	1.8	2.0	73	-1	237	132	0.6	2.8	2.0	2.7	2.8	73
13	ECAVL16/ECAVL17	95	18	7	154	68	3.5	2.0	73	1	231	119	0.5	2.7	1.8	2.8	3.2	73
2	ECAVL1/ECAVL16	92	19	7	160	73	3.2	1.8	73	0	219	125	0.5	2.8	2.1	2.8	3.0	72
15	ECAVL16/NIP25	91	21	6	152	64	3.2	1.8	73	1	214	123	0.6	2.8	2.0	2.7	3.2	73
28	NIP25-#	81	25	4	144	53	2.5	2.0	73	0	209	95	0.5	3.2	2.0	2.3	3.5	73
Maturity group average																		
Entries with anthesis date between 74 and 75 days																		
10	ECAVL2/ECAVL18	124	5	2	142	64	2.0	2.2	75	0	211	107	0.5	2.7	1.5	2.2	2.8	74
1	ECAVL1/ECAVL2	116	9	8	155	70	2.0	2.0	75	-1	222	113	0.5	2.2	2.0	2.0	2.7	75
9	ECAVL2/ECAVL17	116	8	4	133	56	1.9	2.3	75	0	233	106	0.4	2.3	1.8	2.0	2.7	75
17	ECAVL16-STR/ECAVL18	113	8	5	144	61	2.4	2.0	75	-2	236	130	0.6	2.3	1.7	2.3	2.8	75
19	ECAVL17/ECAVL18	112	11	7	150	64	2.7	2.2	74	1	248	134	0.5	2.3	1.5	2.5	3.0	74
7	ECAVL2/ECAVL16	107	12	5	153	63	2.7	1.7	74	0	250	143	0.6	2.6	2.0	2.5	3.0	74
3	ECAVL1/ECAVL16-STR	107	12	4	141	65	2.0	2.2	75	-1	242	133	0.5	2.2	2.1	2.5	2.8	74
20	ECAVL17/NIP25	104	12	8	145	49	2.5	2.0	73	1	206	90	0.4	2.5	1.7	2.3	3.2	74
16	ECAVL16-STR/ECAVL17	101	16	7	149	63	2.4	2.2	75	0	250	137	0.6	2.0	1.7	2.5	2.7	75
4	ECAVL1/ECAVL17	100	17	4	148	60	2.5	2.3	75	-1	238	125	0.5	2.5	1.7	2.7	3.2	74
27	ECAVL18-#	98	17	9	153	67	2.7	1.8	74	0	230	117	0.5	3.0	1.5	2.4	2.8	75
18	ECAVL16-STR/NIP25	95	18	8	137	63	2.0	2.0	73	0	222	118	0.6	2.7	2.0	2.5	3.2	74
12	ECAVL16/ECAVL16-STR	93	19	5	147	67	2.5	2.0	74	0	229	109	0.5	2.5	2.0	2.7	3.0	74
14	ECAVL16/ECAVL18	91	20	8	142	59	2.9	1.7	73	1	215	142	0.7	2.6	1.7	2.5	3.2	74
26	ECAVL17-#	80	25	4	125	52	2.2	2.5	74	2	209	94	0.4	2.5	2.2	2.7	2.8	75
24	ECAVL16-#	76	24	10	146	63	3.9	1.8	73	1	234	116	0.5	3.0	2.2	3.0	3.5	74
Maturity group average																		

ECA-ILVT09

Agronomic traits of 21 intermediate to late maturing varietal hybrids tested at 15 sites in Eastern Africa, 2009.

TABLE 2C

Entry	Pedigree	Nanulonge Uganda										Kakamega Kenya										Across
		Relgy	Across	Rank	Plant	Ear	E.turc	Grain	Text	Anth	Date	AS	Plant	Ear	eight	Position	GLS	P.sorg	E.turc	Plant	Anth	
%	Avg	StdDev	cm	cm	1-5	1-5	1-5	d	d	cm	cm	cm	cm	0-1	1-5	1-5	1-5	1-5	1-5	1-5	d	
Entries with anthesis date equal to 76 days																						
8 ECAVL2/ECAVL16-STR	118	8	8	142	63	2.2	2.3	76	0	235	135	0.6	2.0	2.0	2.2	2.7	76					
23 ECAVL2-#	110	8	8	129	58	1.9	2.2	76	0	240	131	0.5	2.5	2.0	2.2	3.2	76					
30 Local Check	94	16	12	151	55	2.4	2.0	79	1	316	185	0.6	1.8	2.0	1.5	3.5	76					
25 ECAVL16-STR-#	93	19	7	137	61	2.2	2.0	77	0	267	149	0.5	2.2	2.1	2.5	2.8	76					
22 ECAVL1-#	84	22	6	147	54	2.5	2.3	75	0	250	140	0.6	2.5	1.7	2.6	3.2	76					
29 CML202/CML395/CML312-RE	79	21	11	153	64	1.9	2.0	77	1	229	109	0.5	1.7	1.7	2.3	3.3	76					
Maturity group average				143	59	2.2	2.1	77	0	256	141	0.6	2.1	1.9	2.2	3.1	76					
Mean	100	16	7	145.4	61.1	2.5	2.1	74.4	0.0	234.4	124.0	0.53	2.5	1.9	2.4	3.0	74.3					
LSD (0.05)	13	6	2	18.3	12.6	0.8	0.4	1.3	1.2	33.0	26.3	0.13	0.6	0.4	0.3	0.5	0.8					
Min	76	5	2	124.8	49.3	1.8	1.7	72.5	-2.0	206.3	89.7	0.43	1.7	1.5	1.5	2.5	72.5					
Max	124	25	12	159.7	73.0	3.9	2.5	76.8	1.5	315.8	184.8	0.70	3.2	2.2	3.0	3.5	76.4					
NumSignificantSites	9	9	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	

ECA-ILVT09

Agronomic traits of 21 intermediate to late maturing varietal hybrids tested at 15 sites in Eastern Africa, 2009.

TABLE 2C

Entry	Pedigree	Bako Ethiopia				Embu Kenya				Kakamega Kenya				Across						
		Relgy	Across Rank	Ear eight	Ear Rot %	Ear Aspect	Anth Date	Lodging Stem %	usk Cover %	Ear Rot %	Plant Aspect	AS	Ears/Plant #	GLS	E.turc	Ear Aspect	Plant Aspect	Anth Date		
%	Avg	StdDev	cm	%	1-5	d	%	%	%	1-5	d	%	1-5	1-5	1-5	1-5	d			
Entries with anthesis date between 72 and 73 days																				
5	ECAVL1/ECAVL18	110	12	7	108	13	2.5	74	22	3	8	2.0	76	5	1.0	2.0	2.7	2.6	2.9	73
21	ECAVL18/NIP25	109	12	9	107	17	2.7	76	12	1	9	2.1	76	5	1.1	1.8	2.5	2.3	3.0	73
11	ECAVL2/NIP25	109	10	5	110	18	2.7	76	19	1	5	2.2	76	6	0.9	1.8	2.6	2.7	3.1	73
6	ECAVL1/NIP25	100	16	7	115	14	2.8	75	14	2	12	2.0	76	7	1.1	2.2	2.3	2.7	3.3	73
13	ECAVL16/ECAVL17	95	18	7	125	10	2.7	75	14	4	5	2.5	78	4	1.1	1.8	3.4	3.3	3.1	73
2	ECAVL1/ECAVL16	92	19	7	137	9	2.5	74	7	3	4	2.3	75	5	1.0	2.0	3.4	3.0	3.3	72
15	ECAVL16/NIP25	91	21	6	112	16	2.9	72	10	4	10	2.3	76	4	1.2	2.0	3.2	2.8	3.1	73
28	NIP25#	81	25	4	95	17	3.0	76	14	0	10	1.7	75	5	1.1	2.2	2.6	3.1	3.4	73
Maturity group average																				
					114	14	2.7	75	14	2	8	2.1	76	5	1.1	2.0	2.8	2.8	3.1	73
Entries with anthesis date between 74 and 75 days																				
10	ECAVL2/ECAVL18	124	5	2	120	8	2.8	76	14	0	12	2.9	77	5	1.1	2.0	2.2	2.5	2.6	74
1	ECAVL1/ECAVL2	116	9	8	113	13	2.5	77	8	6	11	2.5	80	2	1.3	2.3	2.2	2.5	2.7	75
9	ECAVL2/ECAVL17	116	8	4	103	12	2.8	77	9	5	6	2.3	78	4	1.1	1.8	2.4	2.3	2.6	75
17	ECAVL16-STRECAVL18	113	8	5	117	18	3.0	77	17	5	2	2.7	78	3	1.0	2.0	2.9	3.0	2.9	75
19	ECAVL17/ECAVL18	112	11	7	98	6	2.5	76	11	9	5	1.9	76	5	1.1	2.0	3.0	2.8	3.0	74
7	ECAVL2/ECAVL16	107	12	5	118	10	2.5	76	13	3	11	2.7	77	5	1.1	1.8	2.4	2.7	3.1	74
3	ECAVL1/ECAVL16-STR	107	12	4	105	23	3.0	77	12	5	10	2.6	76	5	1.0	1.5	2.7	2.9	2.6	74
20	ECAVL17/NIP25	104	12	8	105	21	2.6	75	7	4	6	2.2	78	4	1.0	2.0	2.8	2.8	3.2	74
16	ECAVL16-STRECAVL17	101	16	7	103	21	3.0	77	8	11	3	2.2	77	4	1.0	1.7	3.0	2.9	2.9	75
4	ECAVL1/ECAVL17	100	17	4	105	9	2.6	78	13	6	14	2.5	78	3	1.0	2.0	3.2	3.1	2.7	74
27	ECAVL18#	98	17	9	95	12	3.0	77	26	6	7	2.2	78	2	1.2	1.8	2.7	3.4	3.0	75
18	ECAVL16-STR/NIP25	95	18	8	112	12	2.8	76	13	0	3	2.1	76	5	1.0	2.2	2.7	2.6	3.2	74
12	ECAVL16/ECAVL16-STR	93	19	5	100	7	2.7	75	13	2	4	2.3	77	6	1.1	2.0	3.2	2.9	3.0	74
14	ECAVL16/ECAVL18	91	20	8	117	6	2.5	75	11	3	4	2.4	75	5	1.2	2.0	3.2	2.9	2.8	74
26	ECAVL17#	80	25	4	88	21	3.0	77	8	4	17	1.8	78	7	1.0	2.0	2.6	3.1	3.3	75
24	ECAVL16#	76	24	10	123	8	2.8	74	13	3	8	2.6	78	4	0.8	2.2	3.4	3.5	3.5	74
Maturity group average																				
					108	13	2.8	76	12	4	8	2.4	77	4	1.1	2.0	2.8	2.9	2.9	74

ECA-ILVT09

Agronomic traits of 21 intermediate to late maturing varietal hybrids tested at 15 sites in Eastern Africa, 2009.

TABLE 2C

Entry	Pedigree	Bako Ethiopia										Embu Kenya										Kakamega Kenya										Across
		Relgy	Across	Rank	StdDev	cm	Ear	eight	Rot	Ear	Aspect	Anth	Date	Lodging	Stem	Cover	usk	Ear	Rot	Plant	Aspect	Anth	Date	AS	Ears/Plant	GLS	E.turc	Ear	Aspect	Plant	Aspect	
		%	Avg				1-5	%	1-5	d	%	%	%	%	1-5	1-5	%	1-5	1-5	1-5	1-5	d	d	d	#	1-5	1-5	1-5	1-5	1-5	1-5	d
Entries with anthesis date equal to 76 days																																
	8 ECAVL2/ECAVL16-STR	118	8	8	110	12	3.0	12	3.0	77	12	2	4	2.2	2.2	79	1	1.0	1.8	2.5	2.6	2.7	76	1	1.0	1.8	2.5	2.6	2.7	76		
	23 ECAVL2#	110	13	8	127	33	3.0	18	3.0	79	18	0	10	2.7	2.7	78	4	0.9	2.0	2.1	2.3	76	4	0.9	2.0	2.1	2.3	2.7	76			
	30 Local Check	94	16	12	137	12	2.0	20	2.0	74	20	0	5	2.5	2.5	90	3	0.9	1.7	2.1	3.6	76	3	0.9	1.7	2.1	3.6	2.9	76			
	25 ECAVL16-STR#	93	19	7	127	17	2.9	15	2.9	79	15	7	5	2.1	2.1	78	5	1.0	1.8	2.8	3.4	76	5	1.0	1.8	2.8	3.4	2.8	76			
	22 ECAVL1#	84	22	6	108	10	3.1	12	3.1	77	12	3	19	2.1	2.1	79	4	1.0	1.8	3.1	3.3	76	4	1.0	1.8	3.1	3.3	3.4	76			
	29 OML202/OML395/OML312-RE	79	21	11	103	13	2.7	17	2.7	81	17	0	6	2.2	2.2	81	3	1.1	1.5	2.6	3.3	76	3	1.1	1.5	2.6	3.3	3.2	76			
	Maturity group average				119	16	2.8	16	2.8	78	16	2	8	2.3	2.3	81	3	1.0	1.8	2.5	3.1	2.9	76	3	1.0	1.8	2.5	3.1	2.9	76		
	Mean	100	16	7	111.4	13.9	2.8	13.3	2.8	76.2	13.3	4.2	7.9	2.3	2.3	77.6	4.3	1.05	1.9	2.8	2.9	3.0	74.3	4.3	1.05	1.9	2.8	2.9	3.0	74.3		
	LSD (0.05)	13	6	2	25.3	9.7	0.4	10.8	0.4	2.3	10.8	4.9	8.3	0.6	0.6	2.7	2.9	0.17	0.4	0.6	0.6	0.4	0.8	2.9	0.17	0.4	0.6	0.6	0.4	0.8		
	Min	76	5	2	88.3	5.8	2.0	6.5	2.0	72.3	6.5	1.0	2.4	1.7	1.7	75.1	1.0	0.85	1.5	2.1	2.3	72.5	1.0	0.85	1.5	2.1	2.3	2.6	72.5			
	Max	124	25	12	136.7	33.1	3.1	26.2	3.1	81.1	26.2	11.4	18.7	2.9	2.9	89.9	7.4	1.29	2.3	3.4	3.6	3.5	76.4	7.4	1.29	2.3	3.4	3.6	3.5	76.4		
	NumSignificantSites	9	9	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	7	

ECA-ILVT09

Agronomic traits of 21 intermediate to late maturing varietal hybrids tested at 15 sites in Eastern Africa, 2009.

TABLE 2C

Entry	Pedigree	Kakamega Kenya				Bako Ethiopia				Bumula Kenya				Across		
		Relgy	Across Rank	Anth Date	Stem %	Ear Aspect	Plant eight	Ear eight	Ear Rot	Plant Aspect	Ears/Plant	Anth Date	%	d		
		%	Avg	StdDev	d	%	1-5	cm	cm	%	1-5	cm	cm	#	d	
Entries with anthesis date between 72 and 73 days																
5	ECAVL1/ECAVL18	110	12	7	75	11	2.7	162	56	12	2.7	182	56	0.9	73	
21	ECAVL18/NIP25	109	12	9	75	7	2.2	158	58	9	3.4	158	58	0.9	73	
11	ECAVL2/NIP25	109	10	5	76	5	2.1	154	62	15	3.0	150	62	0.8	73	
6	ECAVL1/NIP25	100	16	7	76	10	2.9	150	62	31	3.5	150	62	0.9	73	
13	ECAVL16/ECAVL17	95	18	7	75	5	2.5	166	59	8	4.0	166	59	0.8	73	
2	ECAVL1/ECAVL16	92	19	7	75	5	2.5	157	69	14	3.5	157	69	0.9	72	
15	ECAVL16/NIP25	91	21	6	74	18	2.2	144	54	9	4.0	144	54	0.9	73	
28	NIP25-#	81	25	4	75	6	2.9	120	33	31	3.8	120	33	0.9	73	
Maturity group average																
					75	9	2.5	151	57	16	3.5	151	57	0.9	73	
Entries with anthesis date between 74 and 75 days																
10	ECAVL2/ECAVL18	124	5	2	76	21	2.3	172	80	8	3.4	172	80	0.8	74	
1	ECAVL1/ECAVL2	116	9	8	76	13	2.4	160	63	11	3.3	160	63	0.9	75	
9	ECAVL2/ECAVL17	116	8	4	75	6	2.3	157	59	6	3.9	157	59	0.9	75	
17	ECAVL16-STR/ECAVL18	113	8	5	81	4	2.4	161	68	.	3.4	161	68	0.6	75	
19	ECAVL17/ECAVL18	112	11	7	76	10	2.6	166	61	13	3.0	166	61	0.8	74	
7	ECAVL2/ECAVL16	107	12	5	77	10	2.2	158	54	7	3.8	158	54	0.9	74	
3	ECAVL1/ECAVL16-STR	107	12	4	76	8	2.2	152	62	10	3.8	152	62	0.8	74	
20	ECAVL17/NIP25	104	12	8	74	12	2.2	143	47	13	3.9	143	47	0.8	74	
16	ECAVL16-STR/ECAVL17	101	16	7	77	12	2.5	169	53	14	2.9	169	53	0.8	75	
4	ECAVL1/ECAVL17	100	17	4	75	4	2.7	142	44	.	3.4	142	44	0.9	74	
27	ECAVL18-#	98	17	9	78	26	2.8	151	73	11	3.7	151	73	0.7	75	
18	ECAVL16-STR/NIP25	95	18	8	77	4	2.6	138	49	14	4.2	138	49	0.8	74	
12	ECAVL16/ECAVL16-STR	93	19	5	76	7	2.4	164	68	8	3.5	164	68	0.9	74	
14	ECAVL16/ECAVL18	91	20	8	77	8	2.3	153	55	8	3.4	153	55	0.8	74	
26	ECAVL17-#	80	25	4	77	7	2.9	141	44	11	4.2	141	44	0.6	75	
24	ECAVL16-#	76	24	10	76	16	2.8	146	51	11	4.1	146	51	0.8	74	
Maturity group average																
					76	11	2.5	155	58	10	3.6	155	58	0.8	74	

ECA-ILVT09

Agronomic traits of 21 intermediate to late maturing varietal hybrids tested at 15 sites in Eastern Africa, 2009.

TABLE 2C

Entry	Pedigree	Kakamega Kenya				Bako Ethiopia				Bumula Kenya				Across	
		Relgy	Across Rank	Anth Date	Stem %	Ear Aspect	Plant eight	Ear eight	Ear Rot	Plant Aspect	Ears/Plant	Anth Date			
		%	Avg	StdDev	d	%	1-5	cm	cm	%	1-5	cm	cm	#	d
Entries with anthesis date equal to 76 days															
8	ECAVL2/ECAVL16-STR	118	8	8	80	10	2.7	154	60	.	3.4	0.9	76		
23	ECAVL2#	110	13	8	76	8	2.4	164	69	.	4.0	0.8	76		
30	Local Check	94	16	12	74	11	2.3	175	77	12	3.1	0.7	76		
25	ECAVL16-STR#	93	19	7	77	11	2.6	144	52	13	3.8	0.9	76		
22	ECAVL1#	84	22	6	82	6	2.6	148	62	50	3.9	0.8	76		
29	CML202/CML395/CML312-RE	79	21	11	76	7	1.8	157	57	17	3.1	0.6	76		
Maturity group average															
					77	9	2.4	157	63	23	3.5	0.8	76		
Mean		100	16	7	76.3	9.7	2.5	154.1	58.8	14.1	3.6	0.82	74.3		
LSD (0.05)		13	6	2	2.8	7.4	0.4	23.2	16.8	10.7	0.8	0.15	0.8		
Min		76	5	2	73.6	4.1	1.8	119.7	33.4	6.3	2.7	0.61	72.5		
Max		124	25	12	82.0	26.1	2.9	174.9	80.3	50.0	4.2	0.94	76.4		
NumSignificantSites		9	9	9	1	1	1	1	1	1	1	1	1	1	7

ECA-QHT09

Agronomic traits of 42 intermediate to late maturing three way QPM hybrids tested at 16 sites in Eastern Africa, 2009.

TABLE 3C

Entry	Kiboko Kenya										Kakamega Kenya				Bako Ethiopia				Kakamega Kenya				Across															
	Across		Rank		Anth Date		Leaf Series		Ear Aspect		Lodging Stem		Ears/Plant		Plant Aspect		E.turc		Anth Date		AS		Ears/Plant		GLS		P.sorg		E.turc		Plant Aspect		Anth Date					
	RelGY	Avg	StdDev	d	1-10	1-5	%	%	#	1-5	Plant Aspect	E.turc	Anth Date	d	1-5	1-5	1-5	#	1-5	1-5	d	1-5	1-5	#	1-5	1-5	1-5	1-5	1-5	d	1-5	1-5	d					
Entries with anthesis date between 69 and 72 days																																						
36	ECA-MORSR(B)F2-6-ECAVEE6PL150PMTSRC1F2/POOL15QPMRSR-B-88-B-B/CML181/CML182	117	15	11	65	4.8	3.2	6	1.0	2.0	2.8	80	71	-1	1.2	1.5	1.5	1.5	1.5	1.8	2.5	71																
5	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS461-B-7-B-#-B-B/CML511	111	18	9	66	5.6	3.5	0	0.6	2.0	2.8	84	73	-2	1.2	1.5	2.2	2.2	2.1	2.5	72																	
12	Pool15QPMFS461-B-7-#-B-B/Pool15QPMFS594-B-1-B-B-B/CML511	107	23	15	65	6.0	3.2	22	0.8	2.0	2.8	83	72	-1	1.5	1.0	1.8	1.8	1.9	2.8	72																	
35	ECA-MORSR(B)F2-4-ECAVEE4PL150PMTSRC1F2/POOL15QPMRSR-B-15-B-B-B/CML181/CML182	100	25	14	64	4.8	3.5	16	0.9	2.0	3.1	80	72	-1	1.3	2.5	1.7	1.7	1.8	3.0	71																	
40	CML144/CML144/ICML159/POOL150PMSR-B-29-B-B-B/CML181/CML182	97	19	15	63	6.1	3.8	14	0.9	2.0	2.8	80	72	-1	1.5	1.5	1.5	1.5	1.9	3.0	71																	
37	CML212/CML144/ICML159/POOL150PMSR-B-41-B-B-B/CML181/CML182	95	27	14	61	7.0	4.0	12	0.8	2.5	3.1	77	70	0	1.1	3.2	1.6	2.0	3.0	69																		
8	Pool15QPMFS324-B-3-B-B-B/Pool15QPMFS461-B-7-B-#-B-B-B/CML511	95	25	10	65	5.9	3.7	8	0.9	1.0	3.4	84	71	-1	1.5	1.0	1.9	2.3	3.3	72																		
24	ECA-MORSR(B)F2-6-ECAVEE6PL150PMTSRC1F2/POOL15QPMRSR-B-97-B-B-B/CML144/CML159	95	28	10	64	6.4	3.3	19	1.0	2.0	2.5	81	72	0	1.3	1.2	1.6	2.0	2.8	70																		
3	Pool15QPMFS80-B-2-B-B-B/Pool15QPMFS761-B-2-B-B-B/CML511	94	28	10	64	6.6	3.3	3	0.7	2.5	3.1	84	71	0	1.2	1.2	2.1	2.2	2.8	72																		
34	CML216/CML144/ICML159/POOL150PMSR-B-32-B-B-B/CML181/CML182	92	26	16	63	5.4	3.5	8	0.8	1.5	3.1	81	71	-1	1.3	2.5	1.4	1.7	2.8	71																		
4	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS324-B-3-B-B-B/CML511	90	31	10	64	6.1	4.0	11	1.1	1.0	3.4	84	71	-1	1.2	1.3	2.1	2.3	3.0	72																		
28	ECA-EE-DLN-PL1 - 1/PL150PMTSRC1F2/POOL15QPMRSR-B-37-B-B-B/CML144/CML159	88	32	9	61	5.4	3.3	18	0.8	3.0	2.8	81	73	-3	1.3	1.5	1.5	2.0	2.5	72																		
Maturity group average																																						
Entries with anthesis date between 73 and 75 days																																						
41	CML144/CML159/CML182	128	7	11	67	5.6	3.7	25	1.1	2.5	2.8	84	73	0	1.5	2.7	1.5	1.8	2.8	74																		
10	Pool15QPMFS40-B-5-B-B-B/CML159/CML511	122	12	14	69	5.0	3.5	18	0.7	2.0	2.5	88	74	0	1.3	1.2	1.8	2.0	3.0	75																		
7	Pool15QPMFS309-B-1-B-B-B/CML159/CML511	117	10	6	65	5.4	3.3	11	0.7	2.0	3.1	87	73	-1	0.9	1.8	2.0	2.0	2.8	73																		
9	Pool15QPMFS40-B-5-B-B-B/Pool15QPMFS462-B-4-B-B-B/CML511	112	17	11	67	4.6	2.7	8	0.6	2.5	2.8	85	73	-1	1.1	1.2	2.2	1.9	3.0	73																		
1	Pool15QPMFS309-B-3-B-#-5-1-4-B/Pool15QPMFS80-B-2-B-B-B/CML511	111	22	14	66	5.2	3.0	11	1.0	2.0	2.1	83	72	0	1.0	2.0	2.5	2.1	3.0	73																		
15	Pool15QPMFS462-B-4-B-B-B/CML159/CML511	110	15	10	67	4.7	3.0	8	0.6	1.5	2.1	88	74	-1	1.0	1.5	1.7	2.0	2.5	75																		
17	SYNTHSRPL150PMTSRC1F2/POOL150PMSR-B-48-B-1-B/CML144/CML159	108	23	13	68	5.6	3.0	13	1.0	2.5	2.8	84	73	-1	1.0	2.7	2.1	2.3	3.0	74																		
33	CML216/CML144/ICML159/POOL150PMSR-B-32-B-B-B/CML181/CML182	107	17	12	67	5.8	3.2	15	0.9	1.5	2.8	85	72	0	1.4	1.8	1.6	1.7	2.5	74																		
39	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS461-B-7-B-#-B-B-B/CML511	106	18	10	66	5.9	4.0	3	1.0	1.5	2.8	81	72	-2	1.5	2.8	1.8	1.5	2.8	73																		
27	ECA-MORSR(B)F2-9/PL150PMTSRC1F2/POOL15QPMRSR-B-27-B-B-B/CML144/CML159	106	19	10	66	6.7	3.5	16	1.3	1.5	2.8	86	72	-2	1.0	1.8	1.6	2.2	3.0	73																		
6	Pool15QPMFS309-B-1-B-B-B/CML144/CML511	105	19	12	68	6.3	3.4	12	0.6	3.0	3.1	85	73	-1	1.4	1.5	2.1	2.5	3.0	74																		
38	Pool15QPMFS309-B-1-B-B-B/CML181/CML182	105	18	15	67	5.8	3.3	11	0.8	1.5	2.5	84	72	-2	1.3	3.0	2.3	1.7	2.5	73																		
2	Pool15QPMFS80-B-2-B-B-B/Pool15QPMFS461-B-7-B-#-B-B-B/CML511	105	21	11	66	5.7	3.3	18	1.0	2.0	2.5	82	72	-2	1.3	1.0	2.0	2.0	2.5	73																		
25	LLSYNTH/PL150PMTSRC1F2/POOL15QPMRSR-B-1-B-B-B/CML144/CML159	104	20	16	67	6.5	3.0	15	1.2	1.5	2.1	85	74	0	1.6	2.2	2.3	2.0	2.5	73																		
16	Pool15QPMFS309-B-1-B-#-B-B-B/CML144/CML511	104	19	14	67	5.1	3.2	18	1.3	2.0	2.8	89	75	-3	1.3	1.5	2.3	2.0	2.5	75																		

Entry	Pedigree	Kakamega Kenya										Bako Ethiopia					Elgon Downs Kenya			Melkasa Ethiopia		Across												
		RelGY	Avg	Rank	Anth Date	AS	Lodging	Ears/Plant	usk	GLS	P.sorg	Aspect	Ear	Anth Date	Ear	eight	Plant	Ears/Plant	P.sorg	Ear	P.sorg	E.turc	AS	Anth Date										
Entries with anthesis date between 69 and 72 days																																		
36	ECA-MOROSR(B)F2-4-ECAVEE6/PL15QPMCTSR(F)2/POOL15QPMRSR-B-88-B-B/CML181/CML182	117	15	11	75	-2	26	1.0	29	2.3	1.8	3.1	71	124	1.6	1.8	3.0	2.1	1.7	2	71													
5	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS461-B-7-B-B-B/CML1511	111	18	9	72	-2	18	1.0	0	1.0	3.0	2.3	73	120	1.6	2.8	2.5	3.1	2.2	2	72													
12	Pool15QPMFS461-B-7-B-B-B/Pool15QPMFS594-B-1-B-B-B/CML1511	107	23	15	73	-2	12	0.9	14	1.8	2.0	2.3	74	112	1.5	2.0	3.0	2.6	2.5	2	72													
35	ECA-MOROSR(B)F2-4-ECAVEE4/PL15QPMCTSR(F)2/POOL15QPMRSR-B-15-B-B-B/CML181/CML182	100	25	14	71	0	21	1.1	46	2.3	1.3	3.0	70	116	1.2	2.0	3.5	2.3	2.4	2	71													
40	CML144/CML144/CML159/POOL15QPMRSR-B-29-B-B-B/CML181/CML182	97	19	15	69	2	5	1.0	41	1.9	1.8	2.9	73	122	1.9	1.5	3.3	1.9	2.4	2	71													
37	CML212/CML144/CML159/POOL15QPMRSR-B-41-B-B-B/CML181/CML182	95	27	14	67	-2	26	1.1	32	3.1	1.8	2.8	70	108	1.3	1.8	3.0	2.4	2.0	2	69													
8	Pool15QPMFS324-B-3-B-B-B/Pool15QPMFS461-B-7-B-B-B/CML1511	95	25	10	73	-2	14	1.1	8	1.5	2.5	2.1	74	120	1.7	1.8	2.5	2.8	1.7	1	72													
24	ECA-MOROSR(B)F2-4-ECAVEE6/PL15QPMCTSR(F)2/POOL15QPMRSR-B-97-B-B-B/CML144/CML159	95	28	10	68	1	17	1.1	0	1.8	2.3	2.5	72	116	1.4	2.3	2.5	2.9	1.5	1	70													
3	Pool15QPMFS80-B-2-B-B-B/Pool15QPMFS761-B-2-B-B-B/CML1511	94	28	10	70	3	8	1.0	2	1.5	2.5	2.1	77	135	1.4	1.8	2.8	2.7	2.3	0	72													
34	CML216/CML144/CML159/POOL15QPMRSR-B-32-B-B-B/CML181/CML182	92	26	16	72	-1	9	1.0	40	2.0	2.5	2.8	74	125	1.8	1.5	2.8	2.4	2.1	2	71													
4	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS324-B-3-B-B-B/CML1511	90	31	10	72	0	7	0.8	10	1.5	2.5	2.5	78	119	1.5	2.3	2.5	3.1	2.1	2	72													
28	ECA-EE-DLN-PL1 - 1/PL15QPMCTSR(F)2/POOL15QPMRSR-B-37-B-B-B/CML144/CML159	88	32	9	74	-2	45	1.0	6	1.5	2.5	2.6	79	94	1.1	1.8	2.5	2.8	2.3	2	72													
Maturity group average																																		
Entries with anthesis date between 73 and 75 days																																		
41	CML144/CML159/CML182	128	7	11	76	-2	10	1.3	33	2.6	1.8	2.5	76	117	1.6	1.5	2.8	2.1	1.3	2	74													
10	Pool15QPMFS440-B-5-B-B-B/CML159/CML1511	122	12	14	76	-2	37	1.0	0	1.5	2.3	2.3	76	135	1.6	1.8	2.8	3.0	2.2	2	75													
7	Pool15QPMFS309-B-1-B-B-B/CML159/CML1511	117	10	6	74	-2	18	0.9	0	1.8	2.5	2.1	75	121	1.5	1.8	2.5	3.1	2.0	1	73													
9	Pool15QPMFS440-B-5-B-B-B/Pool15QPMFS462-B-4-B-B-B/CML1511	112	17	11	75	-2	16	1.2	0	1.6	2.3	2.6	76	123	1.5	1.8	2.8	2.5	2.1	1	73													
1	Pool15QPMFS538-B-3-B-5-1-4-B/Pool15QPMFS80-B-2-B-B-B/CML1511	111	22	14	74	-2	8	0.9	8	2.3	3.0	2.8	73	118	1.7	2.0	3.0	3.3	2.1	2	73													
15	Pool15QPMFS462-B-4-B-B-B/CML159/CML1511	110	15	10	75	-2	1	1.0	8	1.8	2.3	2.5	77	119	2.0	2.5	2.8	2.6	1.5	2	75													
17	SYNTHSR(PL15QPMCTSR(F)2/POOL15QPMRSR-B-48-B-1-B/CML144/CML159	108	23	13	75	-2	10	1.1	0	1.7	3.0	2.6	75	132	1.5	1.8	2.5	3.1	2.1	1	74													
33	CML216/CML144/CML159/POOL15QPMRSR-B-32-B-B-B/CML181/CML182	107	17	12	76	-2	13	1.2	18	2.0	1.8	2.6	76	117	1.3	1.8	2.8	2.1	1.3	2	74													
39	Pool15QPMFS538-B-3-B-7-1-1-B/CML181/CML182	106	18	10	75	-2	18	1.1	6	2.0	2.3	2.8	76	107	1.6	1.8	2.5	2.5	2.1	2	73													
27	ECA-MOROSR(B)F2-4-ECAVEE4/PL15QPMCTSR(F)2/POOL15QPMRSR-B-27-B-B-B/CML144/CML159	106	19	10	74	-2	28	0.9	7	2.1	2.0	2.3	75	125	1.6	1.8	2.8	2.7	2.8	1	73													
6	Pool15QPMFS309-B-1-B-B-B/CML144/CML1511	105	19	12	76	-2	12	1.0	0	2.0	2.8	2.5	80	107	1.4	2.0	2.5	2.7	2.4	1	74													
38	Pool15QPMFS538-B-3-B-5-1-1-B/CML181/CML182	105	18	15	74	0	7	1.0	7	2.5	2.0	2.5	74	117	1.3	1.8	2.3	2.7	2.1	1	73													
2	Pool15QPMFS80-B-2-B-B-B/Pool15QPMFS461-B-7-B-B-B/CML1511	105	21	11	73	-2	12	1.1	13	2.0	2.8	2.1	77	124	1.6	2.0	3.0	2.9	2.3	2	73													
25	LLSYNTH(PL15QPMCTSR(F)2/POOL15QPMRSR-B-1-B-B-B/CML144/CML159	104	20	16	73	-2	43	1.0	1	2.3	2.3	2.5	74	130	1.7	2.0	2.8	2.7	2.5	1	73													
16	Pool15QPMFS538-B-1-B-B-B/CML144/CML1511	104	19	14	76	-2	25	0.9	0	2.3	2.5	2.3	77	115	1.6	2.5	2.3	2.9	2.2	2	75													

Agronomic traits of 42 intermediate to late maturing three way QPM hybrids tested at 16 sites in Eastern Africa, 2009.

TABLE 3C

Entry	Kakamega Kenya											Bako Ethiopia			Elgon Downs Kenya			Melkasa Ethiopia		Across															
	RelGY	Across	Pedigree	Anth	AS	Lodging	Ears/Plant	usk	GLS	P.sorg	Aspect	Ear	Anth	Date	Ear	eight	Plant	Ears/Plant	P.sorg	Aspect	Ear	Anth	Date	Ear	eight	Plant	Ears/Plant	P.sorg	Aspect	Ear	Anth	Date			
	%	Avg	StdDev	d	d	%	#	%	1-5	1-5	1-5	1-5	d	cm	#	#	cm	1-5	1-5	1-5	1-5	d	d	cm	#	cm	1-5	1-5	1-5	d	d				
29 Pool15QPMFS793-B-4-B-#B-B-B/CML144/CML159	103	24	12	74	-2	0	0.9	9	1.8	2.0	3.0	76	115	1.5	1.5	3.0	2.6	2.0	2.0	2.0	73	73													
11 Pool15QPMFS461-B-7-B-#B-B-#Pool15QPMFS462-B-4-B-B-B/CML1511	101	26	16	76	-2	30	1.0	0	1.6	2.8	2.6	75	117	1.5	2.0	2.8	2.8	2.0	2.0	2.0	74	74													
19 SYNTHSRPL15QPMFC7SRC1F2/POOL15QPMNSR-B-4B-3-B/CML144/CML159	99	23	10	75	-2	0	1.0	5	1.8	2.5	2.5	76	99	1.5	2.0	2.5	2.7	2.2	2.1	2.1	73	73													
22 ECA-EE-DLN-PL1-1/PL15QPMFC7SRC1F2/POOL15QPMNSR-B-16-B-B-B/CML144/CML159	96	26	9	75	-3	15	1.0	14	1.5	2.0	2.5	75	99	1.7	1.8	2.8	1.8	1.5	2.2	2.2	75	75													
20 SYNTHSRPL15QPMFC7SRC1F2/POOL15QPMNSR-B-4B-5-B/CML144/CML159	95	29	14	75	-2	7	1.0	16	1.8	2.5	2.3	78	133	1.2	2.8	2.8	3.2	2.6	2.1	2.1	75	75													
23 SYNTHSRPL15QPMFC7SRC1F2/POOL15QPMNSR-B-74-B-B-B/CML144/CML159	95	26	10	73	-1	5	1.0	18	2.0	2.5	2.8	75	102	1.4	1.8	2.5	2.5	2.3	2.0	2.0	73	73													
21 SYNTHSRPL15QPMFC7SRC1F2/POOL15QPMNSR-B-4B-7-B/CML144/CML159	95	27	8	75	-2	5	1.0	0	2.0	2.5	2.5	79	108	1.5	1.5	2.5	2.8	2.0	2.0	2.0	74	74													
31 Pool15QPMFS538-B-3-B-#5-1-1/B/CML144/CML159	95	24	14	74	-2	17	1.1	14	2.3	2.5	2.6	75	116	1.2	1.8	2.5	2.7	2.3	2.0	2.0	73	73													
32 Pool15QPMFS538-B-3-B-#7-1-1/B/CML144/CML159	91	28	9	77	-2	8	0.9	7	2.5	2.8	2.8	76	132	1.6	1.8	2.8	2.9	2.0	2.0	2.0	75	75													
30 Pool15QPMFS212-B-2-B-#B-B-B/CML144/CML159	87	30	12	75	-2	0	0.9	22	1.6	2.0	2.8	75	99	1.0	1.8	3.0	2.2	1.6	1.6	1.6	74	74													
18 SYNTHSRPL15QPMFC7SRC1F2/POOL15QPMNSR-B-4B-2-B/CML144/CML159	86	34	6	74	-2	25	1.0	4	2.5	2.8	2.6	73	124	1.3	1.8	3.0	2.7	2.1	2.1	2.1	73	73													
45 H613	85	26	21	72	0	18	1.2	7	2.5	2.3	2.5	76	126	1.4	1.8	2.5	2.3	2.0	2.0	2.0	74	74													
Maturity group average																																			
Entries with anthesis date between 76 and 78 days																																			
43 CML144/CML159/CML1511	115	15	13	78	-2	11	1.0	0	1.7	2.3	1.8	82	117	1.4	1.5	2.5	2.7	1.3	2.2	2.2	77	77													
13 Pool15QPMFS461-B-7-B-#B-B/CML144/CML1511	100	24	14	77	-2	7	0.9	0	1.5	2.0	2.3	80	115	1.9	2.0	2.8	2.9	2.2	2.1	2.1	76	76													
14 Pool15QPMFS462-B-4-B-B-#Pool15QPMFS478-B-3-B-B-B/CML1511	97	19	14	76	-2	14	1.1	0	1.8	2.5	1.9	76	126	1.4	2.3	2.5	3.1	2.1	2.1	2.1	76	76													
42 CML144/CML159/CML176	85	32	12	77	-2	37	0.9	0	1.7	2.3	2.3	78	109	1.2	2.0	2.8	2.5	2.0	2.0	2.0	77	77													
26 CML221/CML144/CML159/POOL15QPMNSR-B-8-B-B/CML144/CML159	82	30	15	77	-2	20	1.0	0	1.5	1.5	3.1	81	106	1.1	2.5	2.5	1.9	2.1	2.1	2.1	78	78													
44 WH403	62	38	9	75	-1	0	1.0	7	1.3	1.5	2.5	83	112	1.1	1.8	3.0	2.5	1.3	1.3	1.3	76	76													
Maturity group average																																			
Mean	100	23	12	73.9	-1.4	15.9	0.99	15.0	1.9	2.3	2.5	75.9	117.2	1.47	1.9	2.7	2.6	2.0	2.0	2.0	73.5	73.5													
LSD (0.05)	12	7	3	2.8	2.2	18.1	0.20	20.0	0.6	0.7	0.4	4.6	17.1	0.30	0.6	0.4	0.5	0.6	0.6	0.6	1.4	1.4													
Min	62	7	6	67.0	-2.5	0.0	0.80	0.0	1.0	1.3	1.8	70.1	93.7	0.99	1.5	2.3	1.8	1.3	1.3	1.3	68.8	68.8													
Max	128	38	21	77.5	2.5	44.8	1.25	46.1	3.1	3.0	3.1	83.0	135.0	2.04	2.8	3.5	3.3	2.8	2.8	2.8	77.7	77.7													
NumSignificantSites	6	6	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	9												

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Agronomic traits of 42 intermediate to late maturing three way QPM hybrids tested at 16 sites in Eastern Africa, 2009.

TABLE 3C

Entry	Pedigree			Across			Namulonge Uganda			Bulindi Uganda			Selian Tanzania			AFSF-Arusha Tanzania			Embu Kenya			Across
	RelCY	Rank	StbDev	Plant height	Grain Text	Plant Aspect	Anth Date	Grain Text	Anth Date	P.sorg	E.turc	Anth Date	Grain Text	Anth Date	Lodging Stem	Ear Aspect	Anth Date					
%	Avg		cm	1-5	1-5	1-5	d	1-5	d	1-5	d	1-5	d	1-5	d	%	d	1-5	d			
Entries with anthesis date between 69 and 72 days																						
36	ECA-MOROSR(BC1)F2-4-ECAVEE8/PL15QPM7SRC1F2/POOL15QPM5SR-B-88-B-B/CM1181/CM1182	117	15	11	174	2.0	2.0	2.0	60	1.5	74	2.0	2.2	75	1.5	69	0	3.0	71			
5	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS461-B-7-B-#-B/CM1511	111	18	9	157	2.0	2.3	2.3	63	1.0	73	2.5	2.4	76	1.3	72	8	2.9	72			
12	Pool15QPMFS461-B-7-B-#-B/Pool15QPMFS594-B-1-B-B-B/CM1511	107	23	15	167	1.5	2.0	2.0	66	1.0	73	2.5	2.4	74	1.5	71	0	2.8	72			
35	ECA-MOROSR(BC1)F2-4-ECAVEE4/PL15QPM7SRC1F2/POOL15QPM5SR-B-15-B-B-B/CM1181/CM1182	100	25	14	161	1.8	2.3	2.3	65	1.0	71	2.0	2.6	74	1.5	71	6	4.1	71			
40	CM1144/CM1144/CM1159/POOL15QPM5SR-B-29-B-B-B/CM1181/CM1182	97	19	15	164	2.5	2.3	2.3	65	2.5	75	2.0	2.1	76	2.0	69	4	3.5	71			
37	CM1212/CM1144/CM1159/POOL15QPM5SR-B-41-B-B-B/CM1181/CM1182	95	27	14	135	2.8	3.3	3.3	62	2.5	73	2.0	2.2	72	2.0	69	6	3.5	89			
8	Pool15QPMFS324-B-3-B-B-B/Pool15QPMFS461-B-7-B-#-B-B/CM1511	95	25	10	170	1.5	2.3	2.3	62	1.0	73	2.5	2.4	74	1.3	69	6	2.5	72			
24	ECA-MOROSR(BC1)F2-4-ECAVEE8/PL15QPM7SRC1F2/POOL15QPM5SR-B-97-B-B-B/CM1144/CM1159	95	28	10	125	2.5	3.0	3.0	63	1.5	72	2.0	2.4	74	1.5	67	0	3.2	70			
3	Pool15QPMFS80-B-2-B-B-B/Pool15QPMFS761-B-2-B-B-B/CM1511	94	28	10	158	1.5	2.3	2.3	63	1.0	77	2.5	2.3	73	1.3	71	9	2.5	72			
34	CM1216/CM1144/CM1159/POOL15QPM5SR-B-32-B-B-B/CM1181/CM1182	92	26	16	152	2.5	2.5	2.5	63	2.0	75	2.3	2.8	74	1.8	72	0	3.5	71			
4	Pool15QPMFS309-B-1-B-B-B/Pool15QPMFS324-B-3-B-B-B/CM1511	90	31	10	164	1.8	2.5	2.5	64	1.0	74	2.3	2.5	75	1.3	72	6	3.1	72			
28	ECA-EE-DLN-PL1-1/PL15QPM7SRC1F2/POOL15QPM5SR-B-37-B-B-B/CM1144/CM1159	88	32	9	163	1.8	2.8	2.8	63	1.0	77	2.5	2.1	74	1.0	70	0	3.2	72			
Maturity group average																						
Entries with anthesis date between 73 and 75 days																						
41	CM1144/CM1159/CM1182	128	7	11	164	2.0	2.3	2.3	65	1.5	77	2.0	2.0	77	1.5	75	0	3.6	74			
10	Pool15QPMFS440-B-5-B-B-B/CM1159/CM1511	122	12	14	159	1.8	2.5	2.5	64	1.0	76	2.5	2.1	76	1.5	74	6	3.2	75			
7	Pool15QPMFS309-B-1-B-B-B/CM1159/CM1511	117	10	6	155	2.0	2.3	2.3	67	1.0	74	2.5	2.9	74	1.5	73	6	3.0	73			
9	Pool15QPMFS440-B-5-B-B-B/Pool15QPMFS462-B-4-B-B-B/CM1511	112	17	11	154	1.8	2.3	2.3	64	1.0	74	2.5	2.2	75	1.3	73	0	2.9	73			
1	Pool15QPMFS308-B-3-B-#-5-1-4-B/Pool15QPMFS80-B-2-B-B-B/CM1511	111	22	14	156	1.5	2.8	2.8	65	1.0	74	2.5	2.5	77	1.5	73	6	3.0	73			
15	Pool15QPMFS462-B-4-B-B-B/CM1159/CM1511	110	15	10	159	2.0	2.5	2.5	64	1.0	77	2.5	2.2	76	1.3	74	0	2.8	75			
17	SYNTHSRPL15QPM7SRC1F2/POOL15QPM5SR-B-48-B-1-B/CM1144/CM1159	108	23	13	159	2.3	2.5	2.5	66	1.0	77	2.5	2.6	75	1.0	75	5	2.9	74			
33	CM1216/CM1144/CM1159/POOL15QPM5SR-B-32-B-3-B/CM1181/CM1182	107	17	12	154	2.0	2.8	2.8	65	1.0	79	2.0	1.9	74	1.5	74	0	3.8	74			
39	Pool15QPMFS538-B-3-B-#-7-1-1-B/CM1181/CM1182	106	18	10	177	2.0	2.0	2.0	64	1.5	74	2.0	2.3	74	1.5	73	9	3.0	73			
27	ECA-MOROSR(BC0)F2/PL15QPM7SRC1F2/POOL15QPM5SR-B-27-B-B-B/CM1144/CM1159	106	19	10	152	2.0	2.5	2.5	64	1.0	73	2.0	2.4	75	1.5	72	12	2.8	73			
6	Pool15QPMFS309-B-1-B-B-B/CM1144/CM1511	105	19	12	159	2.0	2.5	2.5	65	1.0	74	2.5	2.6	75	1.3	75	5	3.2	74			
38	Pool15QPMFS538-B-3-B-#-5-1-1-B/CM1181/CM1182	105	18	15	166	2.0	2.5	2.5	65	1.5	76	2.3	2.0	75	1.5	73	0	3.0	73			
2	Pool15QPMFS80-B-2-B-B-B/Pool15QPMFS461-B-7-B-#-B-B-B/CM1511	105	21	11	151	1.8	2.5	2.5	65	1.0	75	2.5	2.7	76	1.3	72	0	2.5	73			
25	LLSYNTHPL15QPM7SRC1F2/POOL15QPM5SR-B-1-B-B-B/CM1144/CM1159	104	20	16	174	1.5	2.0	2.0	65	1.0	77	2.5	2.1	75	1.5	72	5	2.0	73			
16	Pool15QPMFS538-B-1-B-#-B-B-B/CM1144/CM1511	104	19	14	140	1.8	2.3	2.3	65	1.0	77	2.5	2.1	78	1.0	74	27	2.7	75			

Entry	Pedigree	Bulindi Uganda				ungoma enya				ungoma enya				ako Ethiopia				Melkasa Ethiopia				iboko enya				iboko enya				Across																							
		Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date	Anth	Date																				
RelGY	Rank	%	Avg	StdDev	d	d	%	Aspect	Ear	Husk	Anth	Date	Stem	%	#	Plant	Aspect	Ears/	Lodging	Ears/	Plant	Height	cm	cm	cm	#	Plant	Date	Aspect	Ears/	P.sarg	Ear	Anth	Ears/	Husk	Anth	Date	Plant	Cover	Anth	Date	Plant	Cover	Anth	Date	Plant	Cover	Anth	Date	Plant	Cover	Anth	Date
Entries with anthesis date equal to 57 days																																																					
23 KATJANI																																																					
Maturity group average																																																					
69	22	4	51	58	7	3.0	57	6	0.7	3.0	63	63	6	0.7	3.0	63	3.0	63	3.0	63	63	210	105	0.8	2.2	3.0	56	1.0	1	53	1	53	1	57	7	13	57																
Entries with anthesis dates between 60 and 61 days																																																					
122	8	6	57	62	7	2.8	62	0	1.0	2.8	65	65	0	1.0	2.8	65	2.8	65	2.8	65	235	115	1.1	2.2	3.4	58	1.2	10	57	2	59	5	5	2	60	60	60	60															
114	7	5	56	66	11	2.5	63	4	1.0	2.5	69	69	4	1.0	2.5	69	3.0	69	3.0	69	243	135	1.0	1.6	3.5	60	1.1	11	58	2	61	5	24	5	24	61	61	61	61														
114	8	7	57	60	14	2.5	62	5	1.0	2.8	66	66	5	1.0	2.8	66	3.2	66	3.2	66	223	118	1.3	2.2	3.2	60	1.0	12	57	3	60	3	11	60	60	60	60																
112	7	4	56	64	13	3.0	61	0	0.9	2.5	68	68	0	0.9	2.5	68	3.6	68	3.6	68	243	121	0.9	1.9	3.6	61	1.1	5	58	3	61	6	19	61	61	61	61	61	61														
110	9	4	55	61	14	2.5	61	2	1.0	2.8	69	69	2	1.0	2.8	69	3.8	69	3.8	69	238	118	1.3	2.0	3.8	60	1.1	8	57	1	59	3	9	60	60	60	60																
106	8	6	56	62	9	2.5	61	0	1.1	2.5	67	67	0	1.1	2.5	67	3.3	67	3.3	67	218	106	1.3	2.2	3.3	60	1.1	10	57	2	60	4	7	60	60	60	60																
106	11	6	58	59	16	2.5	62	5	1.1	2.5	66	66	5	1.1	2.5	66	3.3	66	3.3	66	240	113	1.2	1.7	3.3	61	1.2	12	56	1	61	6	19	60	60	60	60																
100	12	5	58	60	27	2.8	62	3	1.0	2.8	68	68	3	1.0	2.8	68	3.8	68	3.8	68	223	115	1.0	1.9	3.8	60	1.1	21	57	3	59	4	14	61	61	61	61																
93	16	5	57	62	11	2.8	62	8	1.1	2.8	67	67	8	1.1	2.8	67	3.5	67	3.5	67	228	120	0.9	2.0	3.5	59	1.1	11	57	2	60	5	3	61	61	61	61																
91	16	5	56	64	20	3.0	63	14	1.0	3.0	68	68	14	1.0	3.0	68	3.3	68	3.3	68	233	121	1.0	2.1	3.3	62	1.1	20	59	2	62	6	23	61	61	61	61																
91	15	6	58	64	5	2.5	62	3	1.0	2.5	66	66	3	1.0	2.5	66	3.5	66	3.5	66	220	110	1.0	2.0	3.5	60	1.1	10	57	3	59	4	12	61	61	61	61																
91	17	7	58	60	7	3.0	60	15	1.0	3.0	66	66	15	1.0	3.0	66	3.2	66	3.2	66	205	102	1.0	2.2	3.2	60	1.1	6	56	2	59	4	8	60	60	60	60																
89	16	7	56	61	7	3.0	61	11	1.1	3.0	70	70	11	1.1	3.0	70	3.4	70	3.4	70	203	108	1.0	1.9	3.4	61	1.1	4	59	1	61	5	15	61	61	61	61																
88	16	6	57	66	11	3.0	62	0	0.9	3.0	68	68	0	0.9	3.0	68	3.3	68	3.3	68	210	98	1.0	1.9	3.3	61	1.2	6	59	1	62	3	7	61	61	61	61																
89	17	6	53	62	7	2.8	61	4	1.1	2.8	65	65	4	1.1	2.8	65	3.2	65	3.2	65	228	107	1.1	2.2	3.2	59	1.2	2	57	2	60	6	22	60	60	60	60																
89	16	7	57	65	5	2.8	61	4	1.0	2.8	68	68	4	1.0	2.8	68	3.4	68	3.4	68	223	108	0.8	2.2	3.4	61	1.0	8	58	4	62	5	14	61	61	61	61																
85	18	5	58	63	18	2.8	60	13	1.0	3.0	68	68	13	1.0	3.0	68	3.1	68	3.1	68	248	120	1.0	1.9	3.1	60	1.1	19	57	4	59	6	18	60	60	60	60																
Maturity group average																																																					
Entries with anthesis date equal to 62 days																																																					
98	13	7	59	64	21	2.8	61	8	1.0	3.0	67	67	8	1.0	3.0	67	3.6	67	3.6	67	220	113	1.2	1.5	3.6	63	1.2	17	60	2	61	7	15	62	62	62	62																
97	12	6	62	63	18	2.5	65	4	0.9	2.8	66	66	4	0.9	2.8	66	4.1	66	4.1	66	230	121	1.0	2.2	4.1	61	1.2	11	59	1	61	3	5	62	62	62	62																
95	14	6	60	65	7	3.0	63	10	1.0	3.0	65	65	10	1.0	3.0	65	3.3	65	3.3	65	215	108	0.8	2.1	3.3	60	1.0	5	58	4	60	9	16	62	62	62	62																
91	16	4	55	62	13	3.0	61	15	1.1	3.0	72	72	15	1.1	3.0	72	3.4	72	3.4	72	203	97	1.2	1.9	3.4	60	1.1	11	60	3	63	7	15	62	62	62	62																
88	17	6	59	66	9	3.0	62	3	1.0	3.0	70	70	3	1.0	3.0	70	3.3	70	3.3	70	230	125	1.3	2.2	3.3	60	1.2	10	59	3	62	4	6	62	62	62	62																
Maturity group average																																																					
Entries with anthesis dates between 66 and 69 days																																																					
149	2	1	63	67	13	2.0	66	1	1.0	2.3	73	73	1	1.0	2.3	73	3.2	73	3.2	73	265	123	1.2	1.7	3.2	66	1.0	37	62	6	64	7	0	66	66	66	66																
124	10	9	74	71	7	2.0	74	1	1.1	2.0	78	78	1	1.1	2.0	78	2.0	78	2.0	78	253	137	1.4	1.5	2.0	76	0.9	8	56	2	59	8	14	69	69	69	69																
Maturity group average																																																					
100	13	6	57.6	62.8	11.9	2.7	62.2	5.7	0.98	2.8	68.0	68.0	5.7	0.98	2.8	68.0	3.3	68.0	3.3	68.0	227.2	114.6	1.07	2.0	3.3	61.0	1.10	11.0	57.7	2.2	60.4	5.2	12.4	61.2	61.2	61.2	61.2																
16	5	2	4.6	4.9	9.9	0.4	3.3	8.5	0.16	0.4	4.8	4.8	0.16	0.4	4.8	0.6	4.8	0.6	4.8	25.4	20.2	0.31	0.4	0.6	3.1	0.17	10.8	1.5	1.9	2.5	2.7	12.3	1.0	1.0	1.0	1.0																	
69	2	1	51.0	58.0	5.3	2.0	56.9	0.7	0.70	2.0	63.3	63.3	0.7	0.70	2.0	0.79	63.3	0.79	63.3	202.5	97.5	0.79	1.5	2.0	55.5	0.86	1.2	53.1	0.5	56.8	2.6	0.2	56.6	56.6	56.6	56.6																	
149	22	9	73.5	70.5	26.8	3.0	73.6	15.5	1.05	3.0	78.2	78.2	15.5	1.05	3.0	1.37	78.2	1.37	78.2	265.0	137.5	1.22	4.1	2.2	76.0	1.23	36.9	61.7	6.0	64.3	8.5	23.8	69.1	69.1	69.1	69.1																	
10	10	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																



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