

Supplementary tables

Table S1. Cane yield and yield reduction of plant crop (PC) in 2014, the 1st ratoon crop (1R) in 2015 and the 2nd ratoon crop (2R) in 2016 of 17 sugarcane genotypes.

Genotype	Cane yield (tons/ha)			Mean	F-test	Reduction (%)	
	PC	1R	2R			PC to 1R	PC to 2R
KKU99-02	115.55 ^{ab} A	101.68 ^a B	94.78 ^a B	104.00	*	12.00 ^e	15.38 ^e
KK3	108.65 ^{bcd} A	99.81 ^a B	89.30 ^{ab} C	99.25	**	8.13 ^{ef}	17.81 ^e
KK06-419	110.66 ^{bcd} A	87.54 ^b B	84.14 ^{abc} B	95.22	**	20.89 ^d	23.96 ^{de}
MPT02-458	105.60 ^{cd} A	81.86 ^{bc} B	80.33 ^{a-d} B	90.37	**	22.48 ^d	23.93 ^{de}
K88-92	122.44 ^a A	89.36 ^b B	78.89 ^{a-c} B	99.11	**	29.47 ^{cd}	35.57 ^{cd}
UT13	97.60 ^{efg} A	89.42 ^b B	75.55 ^{a-f} C	89.75	**	8.38 ^{ef}	22.59 ^{de}
KKU99-01	109.17 ^{bcd} A	105.54 ^a A	70.66 ^{a-g} B	95.12	**	3.32 ^f	35.27 ^{cd}
KKU99-06	103.72 ^{def} A	70.14 ^{de} B	67.59 ^{b-g} B	80.48	**	32.37 ^{bc}	34.83 ^{cd}
KKU99-03	112.70 ^{bc} A	74.07 ^{cd} B	64.96 ^{b-g} B	83.91	**	34.28 ^b	42.36 ^{abC}
CSB07-219	106.94 ^{cd} A	73.27 ^{cd} B	63.47 ^{c-g} C	81.22	**	31.48 ^{bc}	40.65 ^{bc}
CSB07-79	97.26 ^{fg} A	87.93 ^b B	58.66 ^{d-g} C	81.28	**	9.59 ^{ef}	39.69 ^{bc}
Kps01-12	120.26 ^a A	83.88 ^b B	56.11 ^{b-g} B	97.81	**	30.25 ^{bc}	53.34 ^{ab}
TBy28-1211	92.20 ^g A	86.84 ^b A	55.71 ^{efg} B	78.24	**	5.81 ^{ef}	39.58 ^{bc}
KK06-501	84.17 ^h A	64.18 ^e B	55.39 ^{efg} B	67.91	**	23.75 ^d	34.19 ^{cd}
MPT05-187	120.84 ^a A	67.06 ^{de} B	52.70 ^{fg} C	80.20	**	44.50 ^a	56.39 ^a
UT12	104.67 ^{de} A	68.73 ^{de} B	51.17 ^{fg} C	74.85	**	34.32 ^b	51.10 ^{ab}
TBy28-0941	104.94 ^{de} A	81.47 ^{bc} B	50.20 ^g C	78.90	**	22.36 ^d	52.16 ^{ab}
Mean	106.90	83.10	67.63	-	-	22.26	36.73
F-test	**	**	**	-	-	**	**

*and ** significant at $p \leq 0.05$ and $p \leq 0.01$, respectively.

Mean in the same column followed by the same letters are not significant different at $p \leq 0.05$ by LSD

Mean in the same row for each genotype followed by the same capital letters are not significant different at $p \leq 0.05$ by LSD

Table S2. Germination percentage and germination reduction of the 1st ratoon crop (1R) in 2015 and the 2nd ratoon crop (2R) in 2016 of 17 sugarcane genotypes.

Genotype	Germination percentage (%) (1R)	Germination percentage (%) (2R)	Germination reduction (%) PC to 1R	Germination reduction (%) PC to 2R	F-test
KKU99-02	74.30 ^{d-g}	71.54 ^{abc}	31.94 ^{ab}	51.39 ^{a-d}	ns
KK3	79.86 ^c	81.91 ^{ab}	20.14 ^{b-e}	31.25 ^g	ns
KK06-419	72.22 ^{efg}	55.56 ^{cd}	27.78 ^{abc}	60.41 ^a	**
MPT02-458	70.83 ^{fg}	63.73 ^{bc}	29.16 ^{ab}	54.16 ^{abc}	**
K88-92	77.77 ^{cd}	70.46 ^{abc}	22.22 ^{b-e}	50.00 ^{a-e}	**
UT13	75.69 ^{c-f}	88.67 ^a	24.30 ^{bcd}	36.80 ^{efg}	ns
KKU99-01	86.80 ^b	74.54 ^{abc}	13.19 ^{cde}	33.33 ^{fg}	*
KKU99-06	69.44 ^g	75.58 ^{abc}	30.55 ^{ab}	48.95 ^{a-e}	**
KKU99-03	70.83 ^{fg}	79.41 ^{ab}	29.17 ^{ab}	41.66 ^{c-g}	**
CSB07-219	58.33 ^h	38.16 ^d	41.66 ^a	56.94 ^{ab}	ns
CSB07-79	69.43 ^g	76.56 ^{abc}	31.25 ^{ab}	45.55 ^{b-f}	ns
Kps01-12	76.39 ^{cde}	63.47 ^{bc}	23.61 ^{bcd}	51.38 ^{a-d}	**
TBy28-1211	92.36 ^a	70.29 ^{abc}	7.64 ^e	40.27 ^{d-g}	**
KK06-501	75.69 ^{c-f}	35.19 ^d	24.30 ^{bcd}	53.12 ^{a-d}	**
MPT05-187	76.38 ^{cde}	60.60 ^{bc}	23.61 ^{bcd}	47.91 ^{a-e}	*
UT12	80.55 ^c	68.99 ^{abc}	19.44 ^{b-e}	48.61 ^{a-e}	**
TBy28-0941	87.50 ^{ab}	64.35 ^{bc}	12.50 ^{de}	44.44 ^{b-g}	**
Mean	76.14	67.00	24.26	46.83	-
F-test	**	**	*	**	-

ns, *, ** non-significant and significant at $p \leq 0.05$ and $p \leq 0.01$, respectively.

Mean in the same column followed by the same letters are not significant different at $p \leq 0.05$ by LSD

Table S3. Root length density in 17 sugarcane genotypes on positioned between plants and between rows at the 90 and 270 days after harvest in upper soil layer (0 – 40 cm) and lower soil layer (40 - 100 cm) in 2016.

Genotype	RLD (cm/cm ³) between plants at 90 DAH		RLD (cm/cm ³) between rows at 90 DAH		RLD (cm/cm ³) between plants at 270 DAH		RLD (cm/cm ³) between rows at 270 DAH	
	Upper (0-40 cm)	Lower (40-100 cm)	Upper (0-40 cm)	Lower (40-100 cm)	Upper (0-40 cm)	Lower (40-100 cm)	Upper (0-40 cm)	Lower (40-100 cm)
KKU99-02	0.39 ^{de}	0.22 ^{d-g}	0.27 ^{cd}	0.21 ^{def}	1.83 ^{d-g}	0.49 ^a	0.65 ^b	0.27 ^{cd}
KK3	1.60 ^a	0.24 ^{def}	0.21 ^{de}	0.23 ^{c-f}	2.54 ^{b-e}	0.24 ^{e-h}	0.27 ^{ef}	0.13 ^{gh}
KK06-419	0.24 ^e	0.28 ^{b-e}	0.36 ^b	0.23 ^{c-f}	3.49 ^a	0.22 ^{e-h}	1.08 ^a	0.42 ^a
MPT02-458	0.89 ^{bc}	0.22 ^{efg}	0.06 ^{gh}	0.25 ^{a-d}	1.95 ^{d-g}	0.27 ^{ef}	0.21 ^{fg}	0.21 ^{def}
K88-92	1.46 ^a	0.19 ^{fg}	0.07 ^{gh}	0.31 ^{ab}	2.28 ^{def}	0.28 ^{def}	0.29 ^{def}	0.30 ^{bc}
UT13	1.73 ^a	0.10 ^h	0.58 ^a	0.23 ^{c-f}	1.59 ^{efg}	0.23 ^{e-h}	0.63 ^b	0.14 ^{gh}
KKU99-01	0.64 ^{cd}	0.22 ^{efg}	0.27 ^{cd}	0.29 ^{abc}	1.84 ^{d-g}	0.27 ^{def}	0.12 ^g	0.17 ^{efg}
KKU99-06	1.61 ^a	0.40 ^a	0.16 ^{ef}	0.19 ^{def}	3.43 ^{ab}	0.15 ^h	0.42 ^{cd}	0.28 ^{cd}
KKU99-03	1.51 ^a	0.18 ^{fgh}	0.15 ^{ef}	0.31 ^{ab}	2.48 ^{b-e}	0.24 ^{e-h}	0.74 ^b	0.16 ^{e-h}
CSB07-219	0.58 ^{cde}	0.16 ^{gh}	0.13 ^{efg}	0.10 ^{gh}	2.70 ^{a-d}	0.26 ^{efg}	0.12 ^g	0.10 ^{gh}
CSB07-79	0.89 ^{bc}	0.29 ^{bcd}	0.01 ^h	0.18 ^{ef}	1.35 ^{fg}	0.32 ^{cde}	0.21 ^{fg}	0.29 ^{bc}
Kps01-12	1.59 ^a	0.35 ^{ab}	0.29 ^{bc}	0.32 ^a	1.16 ^g	0.21 ^{fgh}	0.74 ^b	0.22 ^{de}
TBy28-1211	1.55 ^a	0.26 ^{c-f}	0.07 ^{gh}	0.10 ^{gh}	2.39 ^{cde}	0.37 ^{bcd}	0.10 ^g	0.15 ^{e-h}
KK06-501	1.53 ^a	0.25 ^{c-f}	0.09 ^{fgh}	0.17 ^{fg}	2.33 ^{cde}	0.38 ^{bc}	0.47 ^c	0.15 ^{fgh}
MPT05-187	1.00 ^b	0.21 ^{efg}	0.26 ^{cd}	0.20 ^{def}	2.70 ^{a-d}	0.47 ^{ab}	0.36 ^{cde}	0.35 ^b
UT12	1.03 ^b	0.32 ^{abc}	0.05 ^h	0.24 ^{b-e}	1.72 ^{efg}	0.16 ^{gh}	1.10 ^a	0.09 ^h
TBy28-0941	1.54 ^a	0.11 ^h	0.09 ^{fgh}	0.07 ^h	3.24 ^{abc}	0.18 ^{fgh}	0.44 ^c	0.16 ^{e-h}
Mean	1.16	0.24	0.18	0.21	2.29	0.28	0.47	0.21
F-test	**	**	**	**	**	**	**	**

** significant at $p \leq 0.01$. Mean in the same column followed by the same letters are not significant different at $p \leq 0.05$ by LSD.

Table S4. SPAD chlorophyll meter reading (SCMR), Chlorophyll fluorescence and Relative water content (RWC) of the 2nd ratoon cane in 17 sugarcane genotypes in 2016.

Genotype	SCMR			Chlorophyll fluorescence (Fv/Fm)			RWC (%)		
	90 DAH	180 DAH	270 DAH	90 DAH	180 DAH	270 DAH	90 DAH	180 DAH	270 DAH
KKU99-02	38.51	43.97 ^a	40.21 ^{bcd}	0.772 ^{ef}	0.782 ^e	0.816	96.00 ^{abc}	98.44	92.39
KK3	36.06	40.90 ^{bcd}	39.66 ^{cd}	0.803 ^{a-e}	0.799 ^{cde}	0.803	94.98 ^{a-d}	99.24	96.65
KK06-419	37.46	40.99 ^{bcd}	39.59 ^{cd}	0.799 ^{a-f}	0.813 ^{abc}	0.816	97.58 ^{ab}	98.80	99.11
MPT02-458	36.53	40.34 ^{cd}	39.89 ^{cd}	0.781 ^{c-f}	0.811 ^{abc}	0.806	93.93 ^{bcd}	98.13	98.49
K88-92	39.12	40.17 ^{cd}	40.09 ^{cd}	0.770 ^f	0.807 ^{a-d}	0.828	97.59 ^{ab}	99.32	97.56
UT13	36.84	40.17 ^{cd}	41.27 ^{bcd}	0.778 ^{def}	0.813 ^{abc}	0.822	98.29 ^a	97.90	98.83
KKU99-01	37.97	40.92 ^{bcd}	40.32 ^{bcd}	0.810 ^{abc}	0.808 ^{a-d}	0.813	97.36 ^{abc}	97.88	98.41
KKU99-06	38.59	38.66 ^d	41.24 ^{bcd}	0.794 ^{b-f}	0.804 ^{a-d}	0.812	95.36 ^{a-d}	99.13	98.60
KKU99-03	37.98	40.10 ^d	42.29 ^{bc}	0.789 ^{b-f}	0.797 ^{cde}	0.799	95.73 ^{a-d}	97.71	96.90
CSB07-219	35.56	40.32 ^{cd}	40.32 ^{bcd}	0.819 ^{ab}	0.805 ^{a-d}	0.804	95.59 ^{a-d}	99.26	97.71
CSB07-79	35.78	42.31 ^{abc}	40.60 ^{bcd}	0.828 ^a	0.820 ^a	0.805	96.84 ^{abc}	97.94	97.61
Kps01-12	36.87	38.95 ^d	39.64 ^{cd}	0.768 ^f	0.807 ^{a-d}	0.813	93.66 ^{cd}	98.28	90.90
TBy28-1211	39.61	44.93 ^a	46.00 ^a	0.776 ^{def}	0.818 ^{ab}	0.821	98.69 ^a	97.13	99.01
KK06-501	37.06	41.09 ^{bcd}	42.93 ^b	0.777 ^{de}	0.792 ^{de}	0.803	92.24 ^d	98.96	95.75
MPT05-187	39.99	43.59 ^{ab}	41.65 ^{bcd}	0.780 ^{c-f}	0.810 ^{abc}	0.797	98.27 ^a	95.97	98.50
UT12	35.51	40.3 ^{cd}	38.94 ^d	0.807 ^{a-d}	0.790 ^{de}	0.797	97.89 ^a	97.32	98.46
TBy28-0941	35.51	40.26 ^{cd}	41.60 ^{bcd}	0.775 ^{ef}	0.799 ^{b-e}	0.801	95.38 ^{a-d}	99.14	97.48
Mean	37.43	41.06	40.95	0.789	0.805	0.808	96.20	98.26	96.61
F-test	ns	**	**	**	*	ns	*	ns	ns

ns, *, ** non-significant and significant at $p \leq 0.05$ and $p \leq 0.01$, respectively.

Mean in the same column followed by the same letters are not significant different at $P \leq 0.05$ by LSD

Table S5. Specific leaf area (SLA) and stomatal conductance of the 2nd ratoon cane in 17 sugarcane genotypes in 2016.

Genotype	Specific leaf area (cm ² /g)		Stomatal conductance (μm ² /s)	
	180 DAH	270 DAH	180 DAH	270 DAH
KKU99-02	83.14 ^{def}	66.58 ^{b-e}	264.87 ^{ef}	354.78 ^{bcd}
KK3	62.99 ^h	57.58 ^{ef}	358.05 ^a	316.20 ^{def}
KK06-419	91.30 ^{bcd}	55.37 ^f	330.10 ^{ab}	372.90 ^{ab}
MPT02-458	98.12 ^{bc}	58.34 ^{ef}	318.73 ^{abc}	317.95 ^{def}
K88-92	68.36 ^h	54.97 ^f	258.33 ^{ef}	272.48 ^g
UT13	88.75 ^{b-e}	69.13 ^{bcd}	317.15 ^{a-d}	326.33 ^{c-f}
KKU99-01	85.60 ^{c-f}	74.46 ^b	336.68 ^{ab}	356.48 ^{bcd}
KKU99-06	101.29 ^b	69.46 ^{bcd}	353.28 ^a	324.13 ^{c-f}
KKU99-03	119.76 ^a	71.45 ^{bc}	322.07 ^{ab}	327.38 ^{c-f}
CSB07-219	65.08 ^h	68.75 ^{bcd}	251.40 ^f	355.33 ^{bcd}
CSB07-79	65.13 ^h	67.41 ^{b-e}	269.68 ^{ef}	342.68 ^{b-e}
Kps01-12	84.95 ^{c-f}	61.11 ^{def}	353.47 ^a	380.00 ^{ab}
TBy28-1211	82.57 ^{d-g}	71.27 ^{bc}	343.20 ^{ab}	365.75 ^{abc}
KK06-501	75.58 ^{e-h}	72.52 ^b	246.00 ^f	337.10 ^{b-e}
MPT05-187	73.87 ^{igh}	84.96 ^a	272.83 ^{def}	408.28 ^a
K88-92	68.88 ^{gh}	64.53 ^{b-f}	275.15 ^{c-f}	291.03 ^{fg}
TBy28-0941	95.55 ^{bcd}	61.96 ^{c-f}	302.50 ^{b-e}	300.68 ^{efg}
Mean	82.99	66.47	304.32	338.20
F-test	**	**	**	**

** significant at $p \leq 0.01$. Mean in the same column followed by the same letters are not significant different at $P \leq 0.05$ by LSD

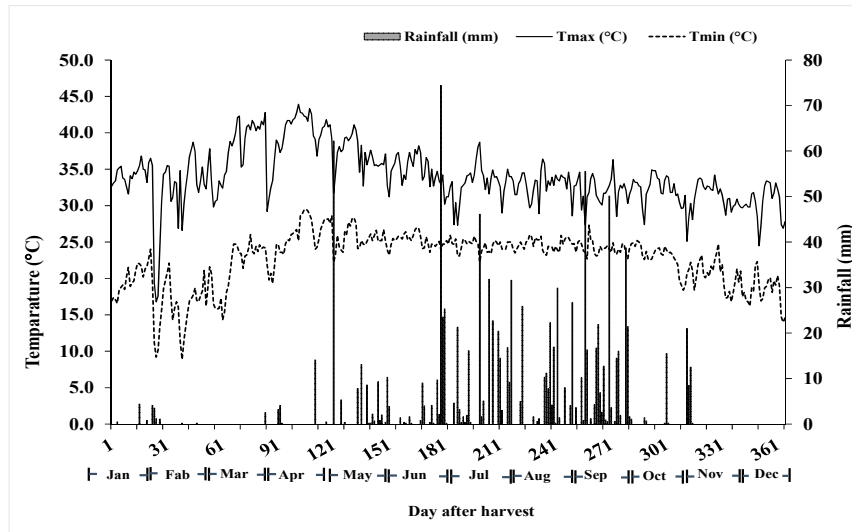


Figure S1. Rainfall (mm), maximum temperature (Tmax) and minimum temperature (Tmin) during January–December 2016.