

Supplementary Material

Phenotypic characterisation and evaluation of resistance to *Fusarium* ear rot, fumonisin contamination and agronomic traits in a collection of maize landraces

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Table S1. Mean values of phenotypic data collected from the 33 traditional maize landraces, Mais Nostrano di Storo and the commercial hybrid FAO 300 evaluated during 2019 and 2020 years at Centro Ricerche Zootecniche, San Bonico, Piacenza, Italy.

Landrace	Year	FER (%)	FUM (mg/kg)	T (days)	S (days)	PM (days)	PH (cm)	EH (cm)	E/P_IR (%)	L (%)	Y (t/ha)	GM (%)
Va211	2019	23.4	1.5	72.3	76.8	126.3	209.0	99.6	47.5	31.7	6.2	18.9
Va212	2019	22.0	0.9	69.0	73.5	129.8	204.6	88.7	43.3	23.5	5.5	17.6
Va213	2019	35.1	3.6	71.3	75.8	126.5	187.6	77.1	40.9	12.5	4.5	15.6
Va214	2019	19.1	3.0	67.3	70.5	123.3	185.2	69.2	37.3	23.6	4.9	13.1
Va215	2019	44.2	6.6	69.3	75.5	125.8	202.9	85.5	42.0	13.5	4.8	14.9
Va216	2019	37.3	2.8	70.3	76.5	122.5	206.4	78.3	37.9	23.3	4.4	15.4
Va217	2019	17.2	6.5	79.8	86.0	135.5	165.6	108.6	65.5	2.6	6.1	16.5
Va218	2019	30.3	1.9	72.0	77.3	124.3	209.3	84.5	40.3	40.0	6.1	14.7
Va219	2019	46.3	7.9	70.3	75.3	123.3	210.2	78.0	37.0	16.7	4.6	14.2
Va220	2019	24.4	1.0	69.0	73.8	114.8	188.6	67.5	35.8	4.3	2.9	14.0
Va221	2019	11.5	0.7	70.5	73.8	126.3	208.1	78.7	37.8	15.5	4.7	13.0
Va222	2019	34.6	2.0	74.8	78.8	125.0	222.3	77.2	34.8	12.8	4.3	16.8
Va223	2019	50.1	12.0	71.5	76.0	126.3	207.6	87.3	42.0	9.5	4.6	14.0
Va224	2019	19.3	5.2	72.8	76.5	125.0	200.8	77.1	38.3	21.8	4.4	13.9
Va225	2019	23.5	2.9	68.8	73.8	125.5	203.0	88.3	43.6	15.9	6.1	16.7
Va226	2019	33.7	7.1	70.0	73.3	128.0	194.5	76.0	39.3	7.8	4.7	15.5
Va227	2019	22.5	5.1	71.5	77.8	124.0	202.8	79.0	39.0	18.7	5.0	17.2
Va228	2019	27.1	2.6	67.8	71.8	126.0	191.1	59.5	31.1	8.9	4.2	14.1
Va229	2019	69.6	2.8	74.0	76.8	127.8	228.2	91.0	39.9	21.9	4.9	14.6
Va230	2019	21.7	4.3	69.3	72.5	120.8	187.6	64.2	34.2	17.2	4.2	13.8
Va231	2019	27.7	4.0	73.5	78.3	127.8	207.5	75.8	36.4	7.5	4.1	14.4
EMR01	2019	28.1	5.9	72.8	74.5	127.3	191.7	83.2	43.4	0.3	6.0	13.7
EMR03	2019	11.2	1.9	71.5	74.5	124.0	207.5	83.8	40.2	6.1	5.2	15.4
EMR04	2019	23.2	3.8	70.8	74.8	129.0	220.6	88.4	40.0	3.1	6.3	13.6
EMR06	2019	42.7	7.0	75.3	78.5	126.8	182.2	75.1	41.2	4.0	1.9	14.0
EMR07	2019	18.8	2.0	69.8	73.8	119.3	183.2	55.9	30.5	15.4	4.7	13.9
EMR10	2019	19.3	3.9	68.5	71.8	125.3	199.0	63.7	31.9	30.1	5.4	14.2
EMR13	2019	23.0	3.0	69.5	74.3	124.5	198.0	79.7	40.2	4.1	4.3	11.7
Q_G	2019	28.9	3.6	71.8	74.5	114.0	178.1	60.6	34.1	28.2	4.5	13.8
M_P	2019	9.2	1.1	67.8	72.5	108.5	149.5	35.8	23.7	28.2	0.5	20.0
U_A	2019	11.9	1.0	68.3	70.8	114.3	192.5	58.7	30.4	6.7	3.9	13.8
U_G	2019	6.9	1.0	66.0	68.8	121.3	195.6	71.6	36.5	12.5	4.6	14.1
U_R	2019	38.4	2.8	69.0	74.3	124.3	219.4	75.3	34.3	17.5	4.0	12.1
N_S	2019	25.6	3.8	73.3	76.8	127.5	203.1	89.0	43.7	3.0	4.5	13.2
FAO 300	2019	25.2	4.0	72.5	75.8	127.5	230.9	95.1	41.2	0.7	6.0	15.1
Va211	2020	14.5	7.0	69.3	73.3	121.5	224.1	106.5	47.5	21.7	7.6	17.8
Va212	2020	10.3	17.7	68.3	72.3	121.8	226.2	97.8	43.2	13.4	5.8	17.0
Va213	2020	13.4	65.5	68.8	72.0	122.0	236.3	94.7	40.1	6.1	5.7	17.1
Va214	2020	9.7	26.1	68.0	71.3	120.5	202.0	83.3	41.1	13.7	5.7	19.1
Va215	2020	19.8	18.0	69.0	73.0	121.8	230.4	92.8	40.3	18.0	5.5	17.4
Va216	2020	24.8	21.1	67.5	73.3	121.5	219.6	87.4	39.8	9.1	4.9	17.2
Va217	2020	14.3	52.5	78.5	84.5	125.5	254.1	120.7	47.4	11.8	8.8	20.2
Va218	2020	16.5	9.6	70.0	73.3	122.0	228.1	88.5	38.9	16.2	7.8	18.0
Va219	2020	11.8	4.2	69.8	73.0	120.5	246.7	101.6	41.2	9.7	6.5	20.4
Va220	2020	27.4	29.6	64.8	68.0	115.5	190.7	74.9	39.3	0	3.6	16.1
Va221	2020	11.5	14.6	70.3	72.8	121.8	238.5	90.1	35.0	3.1	5.4	17.2
Va222	2020	9.8	15.5	72.5	76.5	122.8	253.6	94.3	37.2	13.4	8.8	17.6
Va223	2020	24.7	30.8	70.3	72.5	122.3	225.3	110.8	49.2	2.7	6.4	17.0
Va224	2020	16.2	28.0	69.3	72.3	120.0	234.6	97.3	41.5	3.1	5.3	17.8
Va225	2020	24.8	15.4	67.8	72.0	122.5	218.8	88.0	31.9	1.6	6.6	16.2
Va226	2020	22.2	7.5	67.3	71.3	122.0	227.9	94.3	41.5	4.2	6.2	16.6
Va227	2020	12.1	4.5	73.0	76.8	122.3	233.4	90.0	38.6	6.3	7.5	17.8
Va228	2020	15.6	18.8	67.3	69.5	120.5	209.0	70.5	33.8	7.7	5.7	16.8
Va229	2020	13.5	11.3	74.3	78.0	122.8	254.8	108.0	42.4	17.4	6.1	15.8
Va230	2020	15.7	9.1	67.8	71.8	120.5	229.3	93.8	40.9	4.2	5.7	17.6
Va231	2020	13.2	41.8	70.5	75.0	122.5	233.8	86.8	37.1	2.4	5.0	19.1
EMR01	2020	12.2	25.8	72.3	75.0	123.0	229.0	109.5	47.8	0	6.0	15.9
EMR03	2020	10.7	12.4	68.8	70.5	122.0	249.0	112.0	45.0	9.3	6.6	17.7
EMR04	2020	11.8	21.9	74.0	79.0	122.3	225.0	97.5	43.3	0	6.8	17.5

EMR06	2020	56.0	36.0	75.0	75.5	120.5	200.9	89.0	44.4	2.3	2.7	16.7
EMR07	2020	6.2	29.4	67.3	70.8	119.5	221.2	79.1	35.7	0	6.9	16.3
EMR10	2020	21.0	12.0	64.8	67.3	120.8	220.2	80.8	24.3	12.1	6.5	18.3
EMR13	2020	24.5	12.1	75.0	77.8	123.8	225.3	86.8	38.5	6.4	5.6	15.6
Q_G	2020	10.0	8.5	66.8	69.5	116.3	207.3	65.6	31.6	20.9	5.7	21.8
M_P	2020	31.3	13.9	64.3	68.3	113.7	179.7	65.4	36.3	12.4	NA	20.0
U_A	2020	7.5	11.7	67.8	68.3	120.3	220.6	84.2	38.1	8.2	4.9	17.4
U_G	2020	6.4	36.8	67.3	73.3	118.3	234.9	87.5	36.9	8.9	5.5	16.1
U_R	2020	22.2	19.4	70.5	73.3	121.5	237.8	106.4	42.3	5.2	3.8	19.1
N_S	2020	28.3	13.8	74.8	78.0	121.3	237.1	100.5	44.7	0	5.5	17.3
FAO 300	2020	12.8	9.1	72.0	76.0	123.5	259.7	112.9	43.5	0	5.9	17.6

The following traits were considered: Fusarium ear rot (FER, %), fumonisin (B₁ +B₂ +B₃) content (FUM, mg/kg), days to tasseling (T, days), days to silking (S, days), days to physiological maturity (PM, days), plant height (PH, cm), ear height (EH, cm), ear/plant insertion ratio (E/P_IR, %), percentage of lodged plants (L, %), grain yield (Y, t/ha), and grain moisture (GM, %).

Q_G: Quarantina Genovese; M_P: Mais da pipe; U_A: Ustneina arancione; U_G: Ustneina gialla; U_R: Ustneina rossa; N_S: Nostrano di Storo.