

Table S3. For each genotype, the cumulative score (Specific Performance Index) of the eight environments attributed to each analytical variable was calculated using the HPI tool, according to the procedure described in Troccoli et al. [19]. For each genotype, the HPI is the sum of the score of the 12 variables.

Specific Attributes	Specific Performance Index (SPI; <i>n</i> =8) for Negative (NV*) or Positive (PV*) Variable												HPI
	NV	NV	NV	NV	PV	PV	PV	NV	PV	PV	PV	NV	
Variety	HP	BL	POD	PPO	Lut-S	β-Car-S	YI-S	BI-S	Lut-P	β-Car-P	YI-P	BI-P	
Preco	-16.0	11.1	9.4	9.1	9.3	12.3	5.5	-0.7	12.6	14.4	5.1	-0.6	71.6
Flaminio	7.4	13.1	12.8	8.7	5.0	6.4	1.4	0.3	0.0	-2.3	1.3	0.4	54.3
Meridiano	4.4	12.7	-4.2	-3.9	7.5	10.5	1.5	-0.6	9.9	15.8	1.2	-0.5	54.1
Dupri	7.6	-2.3	14.4	10.3	9.9	9.2	2.0	-0.1	-1.1	2.0	1.5	0.0	53.3
Parsifal	11.6	5.0	11.6	7.5	-0.3	-1.6	-1.8	1.1	-1.8	-4.8	-1.5	0.8	25.7
Verdi	3.8	2.6	6.7	-1.0	-4.1	-2.4	1.1	-0.1	3.8	12.7	0.7	-1.0	22.7
Gianni	8.2	3.7	14.2	10.6	-6.3	-10.1	-3.3	0.9	-6.1	-10.0	-2.7	0.9	0.1
San Carlo	1.3	2.8	-3.3	-7.3	-0.1	7.3	0.7	-0.3	-0.8	-2.8	0.5	-0.5	-2.4
Saadi	12.0	0.2	-8.8	1.1	0.2	0.4	-0.5	-0.4	-4.7	-2.2	-0.4	-0.6	-3.7
Duilio	-14.8	5.2	13.4	10.4	-6.5	-4.4	-1.2	0.4	-5.1	-4.2	-1.0	0.3	-7.6
Iride	6.5	-4.0	-3.8	4.3	0.6	-3.0	-0.4	-0.2	-2.8	-9.1	-0.5	-0.1	-12.3
Claudio	3.5	-8.1	-5.9	-1.9	3.0	2.9	-0.5	0.2	-3.2	-1.6	-1.0	0.2	-12.3
Colosseo	7.6	1.3	-9.5	3.5	-6.9	-8.8	-2.6	0.6	2.5	-4.9	-1.6	0.7	-18.1
Arcobaleno	4.0	-0.4	-11.9	-7.1	-1.5	-0.2	0.0	-0.5	-4.3	-3.3	-0.2	-0.7	-26.0
Creso	10.5	3.1	-8.1	-5.9	-5.9	-9.6	-3.3	-0.2	-7.3	-3.3	-2.6	0.0	-32.5
Torrebianca	-16.0	1.9	-1.7	-5.3	-2.2	-4.4	-0.3	-0.6	-0.4	-3.9	-0.9	-0.1	-33.7
Nefer	7.2	-16.0	-10.8	-7.2	-4.3	-4.3	0.2	-0.6	0.7	-4.5	0.5	-0.4	-39.5
Simeto	-13.5	-3.3	-14.2	-15.9	-0.4	-4.5	-0.3	-1.0	-0.3	-6.3	-0.3	-0.7	-60.6
Number of varieties with favourable SPI *													
Favourable SPI	14	12	7	9	7	7	7	6	6	4	7	8	7
Unfavourable SPI	4	6	11	9	11	11	11	12	12	14	11	10	11

HP=Hydroperoxidation activity of LOX; BL=Bleaching activity of LOX; POD=Peroxidase activity; PPO=Polyphenoloxidase activity; Lut=Lutein; β-Car=β-Carotene; YI=Yellow index; BI=Brown index; S=semolina; P= Pasta.

*A variable classified as "negative" (NV) or "positive" (PV) is considered favourable if the initial content of specific variable results respectively lower or higher than the overall mean value, obtaining a positive score.