

## Prediction of genetic and selection parameters in pumpkin (*Cucurbita moschata* Duch.) progenies for morphoagronomic characteristics and pulp quality

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**Table 1S.** Pumpkin progenies resulting from a cross of sibling plants (SIB), selected in the pumpkin breeding programme of Embrapa Semiárido for commercial traits and total carotenoid content.

Progeny (No.)	Genealogy: sibling plants (SIB) of GBC* accession No.	No. of plants self-fertilized (evaluated plants)	Description
1	569	16 (1, 2, 3, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19)	Pyriform fruit with cream-coloured gummy skin, orange pulp, smooth surface without warts; mean weight 3.5 kg; mean length and diameter 23.60 and 19.70 cm, respectively; and mean thickness of the upper, internal and lateral pulp 24.64, 15.5 and 28.42 mm, respectively. Total carotenoid content 139.92 $\mu\text{g.g}^{-1}$ pulp.
2	569	16 (1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19)	Pyriform fruit with cream-coloured gummy skin, reddish-orange pulp, smooth surface without warts; mean weight of 3.5 kg; medium length and diameter 25.90 and 18.70 cm, respectively; and mean thickness of the upper, internal and lateral pulp 26.01, 16.4 and 25.43 mm, respectively. Total carotenoid content 119.40 $\mu\text{g.g}^{-1}$ pulp.
3	567	14 (1, 2, 6, 7, 8, 9, 12, 13, 14, 16, 18, 19, 20, 21)	Fruit with flattened shape and cream-coloured gummy skin, reddish-orange pulp, rough surface and no warts; mean weight of 1.96 kg; medium length and diameter 18.70 and 23.70 cm, respectively; and mean thickness of the upper, internal and lateral pulp 22.44, 12.1 and 44.01 mm, respectively. Total carotenoid content 142.07 $\mu\text{g.g}^{-1}$ pulp.
4	567	17 (1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 9, 18, 20, 21)	Fruit with globular shape and gummy green skin, reddish-orange pulp, smooth surface without warts; mean weight of 4.34 kg; medium length and diameter 22.30 and 24.30 cm, respectively; and mean thickness of the upper, internal and lateral pulp 25.73, 11.8 and 27.75 mm, respectively. Total carotenoid content 120.40 $\mu\text{g.g}^{-1}$ pulp.
5	567	12 (4, 5, 6, 9, 13, 14, 15, 16, 17, 18, 19, 21)	Fruit with flattened shape and gummy green skin, reddish-orange pulp, smooth surface without warts; mean weight 5 kg; medium length and diameter 16.10 and 21.40 cm, respectively; and mean thickness of the upper, internal and lateral pulp 25.73, 11.8 and 27.75 mm, respectively. Total carotenoid content 134.13 $\mu\text{g.g}^{-1}$ pulp.

\*Genebank of Cucurbits

**Table 1S.** Pumpkin progenies resulting from a cross of sibling plants (SIB), selected in the pumpkin breeding programme of Embrapa Semiárido for commercial traits and total carotenoid contents (Continuation...).

Progeny (No.)	Genealogy: sibling plants (SIB) of GBC* accession No.	No. of plants self-fertilized (evaluated plants)	Description
6	567	17 (1, 2, 3, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21)	Fruit with flattened shape and gummy green skin, orange pulp, smooth surface without warts; mean weight 4.4 kg; medium length and diameter 15.50 and 25.00 cm, respectively; and mean thickness of the upper, internal and lateral pulp 21.6, 10 and 54.99 mm, respectively. Total carotenoid content 157.60 $\mu\text{g.g}^{-1}$ pulp.
7	545	21 (1, 2, 3, 2, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21)	Pyriform fruit with orange gummy skin, orange pulp, smooth surface without warts; mean weight 2.5 kg; mean length and diameter 27.8 and 17.2, respectively; and mean thickness of the upper, internal and lateral pulp 46.99, 24.3 and 19.62 mm, respectively. Total carotenoid content 209.21 $\mu\text{g.g}^{-1}$ pulp.
8	545	17 (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 20)	Pyriform fruit with green gummy skin, orange pulp, smooth surface without warts; mean weight of 2.7 kg; mean length and diameter 19.3 cm and 20 cm, respectively; and mean thickness of the upper, internal and lateral pulp 46.0, 20.45 and 32.1 mm, respectively. Total carotenoid content 174.0 $\mu\text{g.g}^{-1}$ pulp.
9	545	18 (2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21)	Elliptical fruit with orange gummy skin, orange pulp, smooth surface without warts; mean weight 1.8 kg; mean length and diameter 20.2 and 16 cm, respectively; and mean thickness of the upper, internal and lateral pulp 27.22, 23.06, and 25.59 mm, respectively. Total carotenoid content 141.31 $\mu\text{g.g}^{-1}$ pulp.
10	545	16 (1, 2, 3, 4, 5, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19)	Pyriform fruit with cream-coloured gummy skin, orange pulp, smooth surface without warts; mean weight 2.5 kg; mean length and diameter 34.2 and 14 cm, respectively; and mean thickness of the upper, internal and lateral pulp 19.66, 07.12, and 21.27 mm, respectively. Total carotenoid content 120.79 $\mu\text{g.g}^{-1}$ pulp.
Total number of self-fertilized plants		164	

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**Table 2S.** Analysis of variance for the characteristics evaluated in pumpkin progenies (*Cucurbita moschata*).

Variation source	D.F.	M.S.								
		FRW	LEN	LD	SD	LICD	MICD	APS	EQS	APP
Blocks	2	0.045	5.308	3.93	1.79	8.58	0.78	0.24	0.05	19.88
Treatments	9	1.12**	33.76**	15.41**	20.81**	5.49 ns	4.56**	1.78**	3.45**	101.28**
Residue	18	0.19	3.24	1.40	1.83	2.62	0.66	0.20	0.19	5.35
C.V. (%)		16.92	8.85	6.61	52.39	12.47	6.74	9.71	11.25	9.79

  

Variation source	D.F.	M.S.							
		EQP	L	C	H	TSS	TA	TCC	β-car
Blocks	2	0.09	1.06	5.86	0.97	0.97	0.00	0.00	0.00
Treatments	9	3.91**	8.49**	4.10 ns	7.76*	17.48 **	0.01**	0.02**	0.02**
Residue	18	0.12	1.87	4.15	2.73	0.83	0.00	0.00	0.00
C.V. (%)		11.56	2.03	2.90	2.59	7.90	33.65	22.28	24.55

ns, \* and \*\* = not significant, significant at 5% and 1%, respectively by F test. D.F. = degrees of freedom. M.S. = mean squared. C.V. = coefficient of variation. Fruit weight (FRW), expressed in kg; length (LEN), larger diameter (LD), smaller diameter (SD), longitudinal internal cavity diameter (LICD), and median internal cavity diameter (MICD), all expressed in cm; apical thickness of the skin (APS), equatorial thickness of the skin (EQS), apical thickness of the pulp (APP), equatorial thickness of the pulp (EQP), all expressed in mm; luminosity (L); chroma (C); hue angle (H); soluble solid content (SSC), expressed in °Brix; titratable acidity (TA), expressed in g of citric acid·100 mL<sup>-1</sup>; total carotenoid content (TCC) and β-carotene content (β-car), expressed in μg g<sup>-1</sup> and determined by high-performance liquid chromatography (HPLC).