

Supplementary material Table S1: Numbers of ovules per berry and percentage of developed embryos in crosses between different grapevine genotypes at different sampling time.

Ripening time*	Cross (♀ × ♂)	Features**	I	II	III	IV
M	TS01 × TS04	Ov/Be	2.3	2.0	n.a.	2.5
		%E	4.0	4.1	n.a.	4.2
M	TS02 × TS04	Ov/Be	1.9	1.6	n.a.	1.8
		%E	15.7	20.2	n.a.	10.8
M	TS11 × TS24	Ov/Be	n.a.	2.3	2.1	n.a.
		%E	n.a.	7.6	13.7	n.a.
M	TS12 × TS24	Ov/Be	1.8	1.5	n.a.	n.a.
		%E	3.6	10.0	n.a.	n.a.
M	TS13 × TS24	Ov/Be	2.0	2.1	n.a.	n.a.
		%E	11.6	15.0	n.a.	n.a.
M	TS13 × TS24	Ov/Be	2.0	2.0	n.a.	n.a.
		%E	10.6	12.2	n.a.	n.a.
M	TS13 × TS27	Ov/Be	n.a.	1.7	2.1	n.a.
		%E	n.a.	4.2	3.4	n.a.
M	TS16 × TS27	Ov/Be	1.9	2.0	n.a.	1.9
		%E	24.7	29.0	n.a.	46.9
M	TS27 × TS03	Ov/Be	n.a.	3.5	3.4	2.9
		%E	n.a.	6.5	9.5	18.2
M	TS27 × TS21	Ov/Be	2.3	2.3	n.a.	n.a.
		%E	8.0	11.6	n.a.	n.a.
M	TS27 × TS32	Ov/Be	n.a.	3.0	3.4	3.3
		%E	n.a.	12.1	11.8	7.5
M	TS28 × TS04	Ov/Be	1.2	n.a.	n.a.	1.2
		%E	15.6	n.a.	n.a.	20.0
M	TS28 × TS13	Ov/Be	1.1	n.a.	n.a.	1.0
		%E	11.5	n.a.	n.a.	17.1
ML	TS04 × TS24	Ov/Be	2.3	2.6	1.6	n.a.
		%E	0.8	0.9	1.0	n.a.
ML	TS23 × TS24	Ov/Be	n.a.	2.5	2.4	n.a.
		%E	n.a.	14.8	20.1	n.a.
ML	TS23 × TS28	Ov/Be	n.a.	2.5	1.5	n.a.
		%E	n.a.	20.6	23.3	n.a.
ML	TS33 × TS19	Ov/Be	n.a.	2.6	n.a.	2.1
		%E	n.a.	6.7	n.a.	18.8
ML	TS33 × TS28	Ov/Be	n.a.	2.2	n.a.	2.5
		%E	n.a.	13.4	n.a.	27.6
ML	TS37 × TS19	Ov/Be	n.a.	2.3	n.a.	2.2
		%E	n.a.	9.0	n.a.	14.7
L	TS05 × TS27	Ov/Be	n.a.	2.2	1.7	n.a.
		%E	n.a.	15.4	22.4	n.a.
L	TS09 × TS04	Ov/Be	2.5	n.a.	2.2	n.a.
		%E	7.0	n.a.	5.6	n.a.
L	TS09 × TS10	Ov/Be	n.a.	2.5	n.a.	1.9
		%E	n.a.	9.6	n.a.	1.6
L	TS09 × TS13	Ov/Be	n.a.	2.3	n.a.	2.4
		%E	n.a.	16.1	n.a.	22.0

L	TS25 × TS13	Ov/Be	n.a.	2.1	n.a.	1.4
		%E	n.a.	0.9	n.a.	3.9
L	TS25 × TS18	Ov/Be	n.a.	1.9	2.2	n.a.
		%E	n.a.	1.6	1.2	n.a.
L	TS25 × TS39	Ov/Be	n.a.	1.2	n.a.	1.5
		%E	n.a.	1.9	n.a.	2.6

*: M: Middle; ML: Middle-Late; L: Late

**I: 43-47 DAP harvest; II: 48-52 DAP harvest; III: 53-57 DAP harvest; IV: 58-62 DAP harvest.

Supplementary material Table S2. Composition of medium used for ovules establishment.

Components	Quantity
Nitsch J.P Macroelements [45]	
Ammonium nitrate (NH ₄ NO ₃)	0.720 g/l
Calcium chloride (CaCl ₂ ·2H ₂ O)	0.166 g/l
Magnesium sulphate heptahydrate (MgSO ₄ ·7H ₂ O)	0.185 g/l
Potassium nitrate (KNO ₃)	0.950 g/l
Potassium phosphate monobasic (KH ₂ PO ₄)	0.068 g/l
Nitsch&Nitsch's Microelements [45]	
Manganese sulphate monohydrate (MnSO ₄ ·H ₂ O)	25.0 mg/l
Copper sulphate pentahydrate (CuSO ₄ ·5H ₂ O)	0.025mg/l
Zinc sulphate heptahydrate (ZnSO ₄ ·7H ₂ O)	10.0 mg/l
Boric acid (H ₃ BO ₃)	10.0 mg/l
Sodium molybdate dihydrate (Na ₂ MoO ₄ ·2H ₂ O)	0.25 mg/l
Iron chelate	
Iron sulfate (FeSO ₄)	50.00 mg/l
Sodium EDTA (NaEDTA)	50.50 mg/l
Hormones	
GA3	2.00 mg/l
IAA	3.00 mg/l
Nitsch&Nitsch's vitamins (1969)	
Myo-Inositol	100.00 mg/l
Thiamine hydrochloride	0.5 mg/l
Pyridoxine	0.5 mg/l
Glycine	2.0 mg/l
Nicotinic acid	5.0 mg/l
Biotin	0.05 mg/l
Folic acid	0.50 mg/l
Agar (Duchefa Biochemie phyto AGAR)	6.50 g/l
Saccharose	20.00 g/l
Activated Charcoal	2.00 g/l
pH 5.8	

Supplementary material Table S3. Composition of the medium used for embryo growth.

Components	Quantity
Quoirin Leipovre Macroelements (1977) [52]	
Potassium nitrate (KNO_3)	4.200 g/l
Ammonium nitrate (NH_4NO_3)	0.800 g/l
Magnesium sulphate heptahydrate ($\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$)	0.720 g/l
Potassium phosphate monobasic (KH_2PO_4)	0.540 g/l
Calcium nitrate tetrahydrate ($\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$)	0.068 g/l
Murashige&Skoog Microelements (1962) [53]	
Manganese sulphate monohydrate ($\text{MnSO}_4 \cdot \text{H}_2\text{O}$)	16.9 mg/l
Zinc sulphate heptahydrate ($\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$)	8.6 mg /l
Boric acid (H_3BO_3)	6.2 mg/l
Copper sulphate pentahydrate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$)	0.025 mg/l
Cobalt chloride ($\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$)	0.025 mg/l
Sodium molybdate dihydrate ($\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$)	0.25 mg/l
Potassium iodide (KI)	0.83 mg/l
Iron chelate	
Iron sulfate (FeSO_4)	50.0 mg/l
Sodium (EDTA NaEDTA)	55.0 mg/l
Vitamins Z4	
Inositol	10.00 g/l
Thiamine	0.10 g/l
Pyridoxine	0.05 g/l
Glycine	0.20 g/l
Nicotinic acid	0.05 g/l
Ascorbic acid	1.00 g/l
Citric acid	1.00 g/l
Agar (Duchefa Biochemie phyto AGAR)	6.50 g/l
Saccharose	20.00 g/l
pH 5.7-5.8	