

Supplementary Table S1. List of sunflower genotypes and their origin, which were used in this study

No	Genotype	Country	Research institution	No	Genotype	Country	Research institution
1	LC1064C	France	ASGROW	51	H158A×LC1064C	France	ASGROW
2	DM2	America	USDA	52	H543/H543R	France	ASGROW
3	H156A/RHA274	France	ASGROW	53	H156/H543R	France	ASGROW
4	NS-R5	France	NOVARTIS	54	H543R	France	-
5	8A*/LC1064C	France	ASGROW	55	H100A/RHA274	France	ASGROW
6	HAR4	America	USDA	56	H205A/83HR4	France	ASGROW
7	SDB1	America	USDA	57	H156A/H543R	France	ASGROW
8	AS5305	France	ASGROW	58	H209A/83HR4	France	ASGROW
9	RHA274	America	USDA	59	H157A/LC1064	France	ASGROW
10	SDR18	America	USDA	60	H100A/LC1064	France	ASGROW
11	RT931	France	RUSTICA	61	H100A/90R78	France	ASGROW
12	NS-B5	France	NOVARTIS	62	AF1POPA	France	NOVARTIS
13	SDB3	America	USDA	63	OES	France	INRAMONT
14	803-1	Serbia	IFVC	64	RHA266	America	USDA
15	F1250/03	Hungary	-	65	PAC2	France	ENSAT
16	HA335B	America	USDA	66	AS613	France	ASGROW
17	TMB 51	France	INRAMONT	67	11×12	America	SPII
18	LP-CSYB	France	ENSAT	68	H603R	France	INRAMONT
19	PM1-3	America	USDA	69	NSF1 A4×R5	France	NOVARTIS
20	SDR19	America	USDA	70	4	Iran	SPII
21	RHA265	France	ASGROW	71	110	Iran	SPII
22	QHP1			72	28	Iran	SPII
23	RT948	France	RUSTICA	73	703-CHLORINA	France	ENSAT
24	ENSAT-283	France	ENSAT	74	30	Iran	SPII
25	HA337B	America	USDA	75	36	Iran	SPII
26	B454/03	Hungary	-	76	NSF1 A5×R5	France	NOVARTIS
27	H100B	France	ASGROW	77	1059	Iran	SPII
28	HA304	America	USDA	78	38	Iran	SPII
29	AS5304	France	ASGROW	79	346	Iran	SPII
30	RHA858	America	USDA	80	CAY	France	ENSAT
31	AS5306	France	-	81	A CONTROL PLASTIPIC	France	ENSAT
32	AS3211	France	ENSAT	82	SDB2	France	INRAMONT
33	ENSAT-254	France	ENSAT	83	1009370 1(100K)	France	ENSAT
34	ENSAT-270	France	ENSAT	84	1009370 3(100K)	France	ENSAT
35	1009329 2(100K)	France	ENSAT	85	H158A/H543R	France	ASGROW
36	1009337 (100K)	France	ENSAT	86	H100A	France	ASGROW
37	100935 0(100K)	France	ENSAT	87	CSWW2X	France	Caussade semences
38	5DES20QR	France	BRN	88	H209A/H566R	France	ASGROW
39	7CR13=PRH6	France	C.F	89	BF1POPB	France	NOVARTIS
40	SSD580	France	ASGROW	90	AS0-1-POP-A	France	ENSAT
41	SSD581	France	ASGROW	91	AS6305	France	ENSAT
42	ENSAT-699	France	ENSAT	92	H205A/H543R	France	ASGROW
43	9CSA3	France	Caussade semences	93	H209A/LC1064	France	ASGROW
44	H049+FSB	France	-	94	H100A/83HR4	France	ASGROW
45	5AS-F1/A2×R2	France	ASGROW	95	D34	France	INRAMONT
46	8ASB2	France	ASGROW	96	sf 076	--	-
47	12ASB3	France	ASGROW	97	sf 022	-	-
48	AS3232	France	ENSAT	98	sf-109	-	-
49	15038	Hungary	-	99	sf-105	-	-
50	15031	France	ASGROW	100	sf-023	-	-