

Table S1 Plant material used in the crossing experiments

No	Species / pedigree	Seed / plant origin	Description ¹	Sex ²	Ploidy	AV-1 ³
PRO	<i>Asparagus prostratus</i> Dumort. <i>Asparagus officinalis</i> L.	Vilmorin (FRA) - Honat ls., France*	Wild relative		2n = 4x = 40	res/susc
RAV	cv. Ravel	Südwestdeutsche Saatzucht GmbH Rastatt (DEU)	All male F ₁ hybrid	M	2n = 2x = 20	susc
DAR	cv. Darlise	Darbonne - Inotalis (FRA)	All male F ₁ hybrid	M	2n = 2x = 20	susc
DOR	cv. Dorsiane	Planasa/Inotalis, Valtierra (Spain)	All male F ₁ hybrid	M	2n = 2x = 20	susc
SWM	cv. Schwetzingen Meisterschuß	Südwestdeutsche Saatzucht GmbH Rastatt (DEU)	OP-cultivar	F / M	2n = 2x = 20	susc
GIL	cv. Gijnlim	Limgroup B.V. (NLD)	All male F ₁ hybrid	M	2n = 2x = 20	susc
EPO	cv. Eposs	Südwestdeutsche Saatzucht GmbH Rastatt (DEU)	F ₁ hybrid	F/M	2n = 2x = 20	susc
BOO	cv. Boonlim	Limgroup B.V. (NLD)	F ₁ hybrid	F / M	2n = 2x = 20	susc
BL1	Breeding line [AO 172]	JKI Collection (Quedlinburg, DEU)	Cross population	F / M	2n = 2x = 20	susc
BL2	Breeding line [AO 2]	JKI Collection (Quedlinburg, DEU)	Cross population	F	2n = 2x = 20	susc
BL3	Breeding line [AO 3]	JKI Collection (Quedlinburg, DEU)	Cross population	M	2n = 2x = 20	susc
BL4	Breeding line [AO 4]	JKI Collection (Quedlinburg, DEU)	Cross population	M	2n = 2x = 20	susc
<i>A. officinalis</i> x <i>A. prostratus</i> hybrids (Generation)						
AO 234	BL1 x PRO (F ₁)	JKI - Pre-breeding programme	ER clone	F	2n = 3x = 30	res
AO 246	BL1 x PRO (F ₁)	JKI - Pre-breeding programme	ER clone	F	2n = 3x = 30	res
AO 250	BL1 x PRO (F ₁)	JKI - Pre-breeding programme	ER clone	M	2n = 3x = 30	res
AO 252	BL1 x PRO (F ₁)	JKI - Pre-breeding programme	ER clone	F	2n = 3x = 30	res
AO 258	BL1 x PRO (F ₁)	JKI - Pre-breeding programme	ER clone	F	2n = 3x = 30	res
AO 297	BL1 x PRO (F ₁)	JKI - Pre-breeding programme	ER clone	F / M	2n = 3x = 30	res
AO 380	AO 258 x BOO (BC ₁)	JKI - Pre-breeding programme	ER clone	M	2n=27	res
AO 390	AO 258 x BOO (BC ₁)	JKI - Pre-breeding programme	ER clone	M	2n=29	res
AO 435	AO 258 x BOO (BC ₁)	JKI - Pre-breeding programme	ER clone	F	2n=28	res
AO 443	AO 258 x BOO (BC ₁)	JKI - Pre-breeding programme	ER clone	M	2n=29	res
AO 449	AO 258 x BOO (BC ₁)	JKI - Pre-breeding programme	ER clone	F	2n=29	res
AO 538	SWM x AO 443 (BC ₂)	JKI - Pre-breeding programme	ER clone	M	2n = 2x = 20	res
AO 553	BL2 x AO 390 (BC ₂)	JKI - Pre-breeding programme	ER clone	F	2n = 2x = 20	res
AO 606	BL2 x AO 390 (BC ₂)	JKI - Pre-breeding programme	ER clone	M	2n = 2x = 20	res
AO 610	BL2 x AO 380 (BC ₂)	JKI - Pre-breeding programme	ER clone	F	2n = 2x = 20	res
AO 618	BL2 x AO 380 (BC ₂)	JKI - Pre-breeding programme	ER clone	M	2n = 2x = 20	res
AO 627	BL2 x AO 380 (BC ₂)	JKI - Pre-breeding programme	ER clone	M	2n = 2x = 20	susc
AO 632	BL2 x AO 380 (BC ₂)	JKI - Pre-breeding programme	ER clone	M	2n = 2x = 20	susc
AO 709	AO 553 x SWM (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 711	AO 553 x BOO (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 731	AO 553 x EPO (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 739	BL1 x AO 538 (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 740	AO 533 x RAV (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 759	SWM x AO 538 (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 760	BL2 x AO 538 (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 779	AO 553 x DAR (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 780	AO 553 x DOR (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 790	SWM x AO 538 (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 807	SWM x AO 618 (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 835	SWM x AO 538 (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 873	SWM x AO 606 (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc
AO 875	AO 610 x RAV (BC ₃)	JKI - Pre-breeding programme	cross seeds	n.d.	2n = 2x = 20	res/susc

*Seeds of *Asparagus prostratus* was received from G. Simon (Vilmorin, FRA), who collected seeds at the Honat ls., France, in the 1980ies.

¹OP - open pollinated cultivar, ER - Embryo rescue; ²F - Female, M - Male, n.d. - not determined so far; ³res - resistant, susc - susceptible