

**Supplementary Table 1.** Oil content, erucic acid and glucosinolate contents in the seeds of all the 135 accessions

Accession type	Sample ID	Oil content in seed (% of seed weight)	Erucic acid content (% of oil content)	Glucosinolate content in seed ( $\mu\text{mol/g}$ )
Hybrid	pin-1	41.99 $\pm$ 0.42	2.7 $\pm$ 0.48	41.08 $\pm$ 0.63
	pin-2	43.4 $\pm$ 0.53	2.81 $\pm$ 0.53	44.75 $\pm$ 0.99
	pin-3	43.15 $\pm$ 0.89	0.94 $\pm$ 0.44	45.84 $\pm$ 0.68
	pin-4	41.2 $\pm$ 1.33	2.72 $\pm$ 0.77	45.21 $\pm$ 2.98
	pin-5	44.21 $\pm$ 0.14	2.55 $\pm$ 0.4	44.82 $\pm$ 1.76
	pin-6	41.56 $\pm$ 1.22	1.49 $\pm$ 1	42.68 $\pm$ 2.78
	pin-7	41.76 $\pm$ 1.22	2.09 $\pm$ 0.77	44.76 $\pm$ 0.53
	pin-8	42.83 $\pm$ 0.57	1.54 $\pm$ 0.74	42.4 $\pm$ 0.89
	pin-9	41.97 $\pm$ 0.92	1.45 $\pm$ 0.12	43.22 $\pm$ 1.31
	pin-10	41.87 $\pm$ 1.57	0.79 $\pm$ 0.12	39.48 $\pm$ 1.9
	pin-11	42.29 $\pm$ 0.68	2.02 $\pm$ 0.64	42.02 $\pm$ 3.87
	pin-12	43.68 $\pm$ 1.47	2.68 $\pm$ 0.67	45.57 $\pm$ 2.95
	pin-13	41.96 $\pm$ 0.12	2.79 $\pm$ 0.51	45.47 $\pm$ 5.86
	pin-14	42.65 $\pm$ 0.44	2.93 $\pm$ 0.69	41.9 $\pm$ 2.36
	pin-15	44.9 $\pm$ 1	4.28 $\pm$ 2.57	55.99 $\pm$ 12.53
	pin-16	43.62 $\pm$ 0.72	1.18 $\pm$ 0.23	43.62 $\pm$ 1.59
	pin-17	41.69 $\pm$ 1.34	2.32 $\pm$ 0.58	41.46 $\pm$ 1.97
	pin-18	41.96 $\pm$ 1.4	1.98 $\pm$ 0.57	45.01 $\pm$ 1.04
	pin-19	44.04 $\pm$ 1.14	1 $\pm$ 0.3	49.85 $\pm$ 3.07
	pin-20	43.95 $\pm$ 0.12	1.45 $\pm$ 0.28	47.29 $\pm$ 0.87
	pin-21	42.7 $\pm$ 0.86	2.51 $\pm$ 0.52	48.21 $\pm$ 2.21
	pin-22	43.66 $\pm$ 1.23	2.18 $\pm$ 0.43	45.9 $\pm$ 1.88
	pin-23	41.91 $\pm$ 0.63	1.89 $\pm$ 0.73	41.44 $\pm$ 3.98
	pin-24	43.48 $\pm$ 0.32	3.02 $\pm$ 0.07	40.86 $\pm$ 2.53
	pin-25	46 $\pm$ 0.96	3.01 $\pm$ 0.89	44.43 $\pm$ 3.34
	pin-26	44.63 $\pm$ 0.97	3.77 $\pm$ 0.77	39.31 $\pm$ 1.65
	pin-27	44.45 $\pm$ 2.32	3.68 $\pm$ 0.27	41.1 $\pm$ 1.51
	pin-28	43.7 $\pm$ 0.35	8.85 $\pm$ 3.42	67.7 $\pm$ 12.89
	pin-29	44.42 $\pm$ 0.82	6.12 $\pm$ 1.85	45.54 $\pm$ 2.93
	pin-30	46.03 $\pm$ 0.84	6.71 $\pm$ 3.42	47.23 $\pm$ 3.5
	pin-31	44.88 $\pm$ 0.23	7.23 $\pm$ 5.55	49.78 $\pm$ 5.58
	pin-32	44.64 $\pm$ 0.91	6.99 $\pm$ 2.63	46.45 $\pm$ 4.44
	pin-33	45.62 $\pm$ 0.98	2.99 $\pm$ 0.36	44.85 $\pm$ 0.76
	pin-34	45.22 $\pm$ 0.93	7.49 $\pm$ 3.53	46.93 $\pm$ 3.03
	pin-35	45.64 $\pm$ 0.44	4.05 $\pm$ 1.61	40.95 $\pm$ 3.06
	pin-36	44.81 $\pm$ 0.56	6.43 $\pm$ 2.9	45.07 $\pm$ 1.39
	pin-37	42.1 $\pm$ 0.18	6.45 $\pm$ 2.13	50.03 $\pm$ 1.05
	pin-38	45.51 $\pm$ 0.81	7.05 $\pm$ 3.37	49.35 $\pm$ 0.2
	pin-39	43.55 $\pm$ 1.04	6.19 $\pm$ 2.63	48.16 $\pm$ 1.71
	pin-40	44.23 $\pm$ 0.83	2.85 $\pm$ 0.64	52.91 $\pm$ 1.81
	pin-41	45.24 $\pm$ 0.43	7.43 $\pm$ 3.03	52.13 $\pm$ 2.46
	pin-42	44.29 $\pm$ 0.61	8.6 $\pm$ 5.17	54.68 $\pm$ 4.3
	pin-43	45.15 $\pm$ 0.38	4.2 $\pm$ 1.51	46.94 $\pm$ 1.73
	pin-44	44.94 $\pm$ 0.48	3.04 $\pm$ 1.4	51.84 $\pm$ 0.26
	pin-45	46.32 $\pm$ 0.63	2.95 $\pm$ 1.19	48.03 $\pm$ 1.31
	pin-46	45.05 $\pm$ 0.53	1.92 $\pm$ 0.37	48.07 $\pm$ 0.77

pin-47	44.8 ± 0.93	1.49 ± 0.15	47.43 ± 3.07
pin-48	44.86 ± 0.41	2.75 ± 0.57	50.07 ± 1.23
pin-49	47.23 ± 0.23	1.82 ± 0.64	43.18 ± 0.99
pin-50	45.9 ± 0.66	3.02 ± 0.81	43.53 ± 0.95
pin-51	46.08 ± 0.47	1.83 ± 0.39	42.76 ± 1.04
pin-52	47.77 ± 1.08	2.37 ± 0.62	46.19 ± 2.05
pin-53	45.78 ± 1.51	2.9 ± 0.59	51.17 ± 1.61
pin-54	46.37 ± 1.24	2.63 ± 0.28	43.71 ± 2.92
pin-55	44.13 ± 1.18	4 ± 1.87	52.18 ± 4.39
pin-56	45.39 ± 0.4	2.7 ± 0.7	49.1 ± 0.63
pin-57	44.89 ± 0.33	2.01 ± 0.36	42.6 ± 3.29
pin-58	46.72 ± 1.75	1.49 ± 0.51	45.4 ± 1.7
pin-59	46.12 ± 1.63	2.08 ± 0.88	45.38 ± 1.5
pin-60	45.59 ± 0.59	2.36 ± 0.61	46.87 ± 1.47
pin-61	47.28 ± 0.16	1.08 ± 0.49	47.13 ± 1.08
pin-62	46.98 ± 0.7	2.03 ± 0.33	44.08 ± 0.75
pin-63	44.57 ± 1.9	2.9 ± 0.3	46.02 ± 1.78
pin-64	42.71 ± 1.42	1.85 ± 0.65	47.94 ± 3.75
pin-65	44.75 ± 0.48	2.2 ± 0.38	45.43 ± 1.27
pin-66	42.95 ± 1.2	1.86 ± 0.23	47.05 ± 2.23
pin-67	43.46 ± 0.86	3.75 ± 0.64	44.28 ± 2.67
pin-68	44.08 ± 0.46	1.9 ± 0.69	44.03 ± 0.93
pin-69	44.81 ± 0.54	2.98 ± 0.19	43.67 ± 1.45
pin-70	44.73 ± 0.66	9.21 ± 6.68	49.01 ± 5.97
pin-71	45.01 ± 0.84	2.52 ± 0.11	43.74 ± 3.92
pin-72	44.06 ± 0.77	2.66 ± 0.91	44.23 ± 1.07
pin-73	46.09 ± 0.37	2.51 ± 0.33	42.74 ± 5.38
pin-74	43.74 ± 0.35	1.98 ± 0.73	45.92 ± 3.19
pin-75	43.43 ± 0.76	2.12 ± 0.93	44.59 ± 3.26
pin-76	43.83 ± 1.34	2.42 ± 0.79	41.59 ± 2.61
pin-77	44.07 ± 0.49	3.59 ± 0.39	44.84 ± 1.66
pin-78	43.93 ± 0.72	3.15 ± 0.31	41.92 ± 1.06
pin-79	44.18 ± 0.8	3.85 ± 0.73	42.63 ± 1.06
pin-80	42.03 ± 1.3	1.5 ± 0.73	39.97 ± 0.73
pin-81	42.77 ± 0.96	2.3 ± 0.76	43.23 ± 3.4
pin-82	38.29 ± 0.78	3.41 ± 0.62	47.71 ± 5.05
pin-83	43.4 ± 0.79	2.55 ± 0.14	42.71 ± 4.23
pin-84	43.75 ± 1.8	3.13 ± 1.02	43.88 ± 0.93
pin-85	44.24 ± 0.96	3.45 ± 0.53	48.76 ± 0.34
pin-86	41.15 ± 2.03	4.15 ± 1.71	45.9 ± 2.14
pin-87	44.25 ± 1.46	2.25 ± 0.2	46.44 ± 2.76
pin-88	43.76 ± 1.13	6.48 ± 3.92	44.48 ± 4.44
pin-89	45.34 ± 0.76	2.6 ± 0.73	42.9 ± 1.57
pin-90	44 ± 0.39	2.24 ± 0.13	41.1 ± 0.31
pin-91	42.97 ± 1.82	1.79 ± 0.42	40.95 ± 2.33
pin-92	44.62 ± 0.57	2.21 ± 0.37	42.24 ± 2.04
pin-93	45.03 ± 1.03	2.05 ± 0.45	41.4 ± 1.98
pin-94	44.05 ± 1.32	2.19 ± 0.47	46.46 ± 2.38
pin-95	45.65 ± 1.16	2.93 ± 0.66	47.66 ± 2.39

	pin-96	46.45 ± 1.02	2.18 ± 0.27	42.98 ± 3.16
	pin-97	46.82 ± 1.08	2.27 ± 0.59	40.28 ± 1.45
	pin-98	45.05 ± 1.99	1.94 ± 0.14	41.96 ± 1.31
	pin-99	45.35 ± 1.72	6.7 ± 5.76	43.86 ± 3.72
Parental plant	pin-100	45.2 ± 0.51	2.01 ± 0.6	40.95 ± 1.15
	pin-101	48.24 ± 1.28	1.39 ± 0.31	26.13 ± 1.17
	pin-102	46.64 ± 1.24	1.18 ± 0.41	24.96 ± 1.05
	pin-103	45.8 ± 2.14	1.65 ± 0.78	26.92 ± 2.01
	pin-104	49.1 ± 1.06	0.55 ± 0.26	28.84 ± 1.49
	pin-105	47.8 ± 0.93	1.35 ± 0.53	27.11 ± 1.06
	pin-106	52.47 ± 1.5	36.61 ± 7.16	47.85 ± 3.02
	pin-107	44.09 ± 4.83	37.78 ± 6.39	66.69 ± 2.83
	pin-108	44.86 ± 3.4	3.86 ± 2.55	30.6 ± 3.63
	pin-109	44.95 ± 2.17	1.39 ± 0.49	23.49 ± 3.49
	pin-110	51.79 ± 2.57	31.24 ± 4.77	81.75 ± 9.26
	pin-111	44.61 ± 0.59	0.88 ± 0.66	22.75 ± 0.53
	pin-112	49.65 ± 1.45	0.39 ± 0.39	31.74 ± 1.42
	pin-113	48.64 ± 1.63	1.48 ± 0.76	29.93 ± 1.66
Hybrid	pin-114	46.51 ± 0.98	5.9 ± 2.96	27.37 ± 1.02
	pin-115	49.15 ± 0.82	0.65 ± 0.49	27.85 ± 1.8
	pin-116	47.13 ± 2.58	1.68 ± 1.61	23.26 ± 0.91
	pin-117	48.87 ± 0.84	5.61 ± 3.64	31.57 ± 0.24
	pin-118	50.22 ± 1.64	1.6 ± 1.38	31.32 ± 0.76
	pin-119	49.04 ± 0.47	1.37 ± 0.7	28.13 ± 2.22
Parental plant	pin-120	50.42 ± 3.18	4.65 ± 4.65	23.26 ± 3.55
	pin-121	49.35 ± 0.66	45.62 ± 7.38	119.03 ± 3.91
	pin-122	51.17 ± 0.92	1.96 ± 1.23	44.04 ± 4.45
hybrid	pin-123	51.47 ± 1.41	8.45 ± 8.45	29.2 ± 0.4
	pin-124	51.74 ± 1.89	5 ± 4.57	31.31 ± 1.66
Parental plant	pin-125	48.12 ± 1.95	5.95 ± 5.89	29.32 ± 2.02
	pin-126	50.77 ± 0.66	5.54 ± 4.94	27.17 ± 0.75
	pin-127	46.21 ± 1.1	9.94 ± 0.09	37.17 ± 0.7
	pin-128	49.89 ± 0.29	0.68 ± 0.43	27.85 ± 2.29
	pin-129	52.9 ± 1.26	0.42 ± 0.42	28.39 ± 0.97
	pin-130	55.61 ± 1.15	0.65 ± 0.65	27.21 ± 3.03
	pin-131	52.82 ± 1.5	1.36 ± 1.36	25.21 ± 1.17
	pin-132	47.34 ± 1.46	0.94 ± 0.52	74.52 ± 4.31
	pin-133	49.62 ± 3.37	3.27 ± 3.27	26.82 ± 1.61
	pin-134	52.25 ± 2.8	27 ± 5.35	32.54 ± 0.64
	Hybrid	pin-135	45.91 ± 0.83	2.26 ± 0.67

Values are presented as mean ± SE.