

**Supplemental data for:**

**Morris, J. B., Tonnis, B., Chen, Z. and Wang, M. L. (2025) “Selection of a core collection from the US castor bean germplasm collection”, *Genetic Resources*, 7(13), pp. 181–191. doi: [10.46265/genresj.ZUEQ4037](https://doi.org/10.46265/genresj.ZUEQ4037)**

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**Supplemental Table 1. Relevant morphological, seed production, oil content, and fatty acid data from 126 castor bean accessions selected for the core collection.**

Accession number	Plant height. (dm.)	Maturity	Raceme length (cm.)	Seed no.	Oil content	Palmitic acid (%)	Stearic acid (%)	Oleic acid (%)	Linoleic acid (%)	Linolenic acid (%)	Gadoleic acid (%)	Rinoleic acid (%)	Dihydroxystearic acid (%)
PI 163162	12	Late	20	448	51	1.5	1.19	6.3	6.36	0.57	0.64	83.01	0.47
PI 165415	24	Midseason	36	105	51	1.24	1.39	3.86	5.78	0.58	0.45	86.06	0.67
PI 165446	24	Midseason	36	1368	49	1.37	1.51	4.3	5.88	0.52	0.41	85.46	0.57
PI 167072	24	Late	13	1747	52	1.84	1.82	4.56	7.19	0.53	0.34	83.27	0.47
PI 167238	27	Midseason	23	1393	38	1.44	2.00	3.76	5.57	0.65	0.5	85.56	0.55
PI 167287	31	Early	23	845	50	1.35	1.6	3.74	6.33	0.54	0.34	85.54	0.59
PI 167288	31	Early	41	746	50	1.6	1.87	3.61	6.91	0.65	0.52	84.27	0.59
PI 167342	24	Early	48	453	50	1.48	1.46	3.74	6.88	0.56	0.43	84.76	0.72
PI 170684	24	Early	51	923	51	1.47	1.57	6.2	6.29	0.55	0.45	83.02	0.46
PI 173091	15	Midseason	18	282	42	1.67	1.5	3.58	6.64	0.88	0.26	85.1	0.39
PI 173795	15	Early	20	233	47	1.68	2.17	5.19	6.68	0.73	0.37	82.73	0.46
PI 173947	34	Late	25	901	49	1.71	1.77	5.07	7.12	0.52	0.46	82.87	0.49
PI 173948	31	Late	43	1200	49	1.7	1.41	5.45	6.58	0.6	0.47	83.32	0.49
PI 173950	31	Late	38	883	51	1.67	1.78	5.62	6.96	0.58	0.51	82.36	0.55
PI 174350	27	Early	28	1582	49	1.38	1.48	5.08	5.94	0.68	0.47	84.49	0.51
PI 174351	18	Midseason	15	1055	49	1.47	2.00	6.18	6.26	0.51	0.65	82.43	0.52
PI 177537	15	Early	23	206	35	1.39	1.76	5.36	5.91	0.54	0.53	83.97	0.55
PI 179029	18	Early	18	183	49	1.73	1.68	4.33	6.6	0.56	0.54	84.19	0.39
PI 179730	11	Midseason	15	156	47	1.73	1.49	4.21	7.01	0.54	0.46	84.06	0.53
PI 179733	11	Midseason	13	731	50	1.5	1.42	3.59	6.64	0.6	0.29	85.4	0.57
PI 180335	15	Midseason	18	1405	46	1.42	1.41	4.27	6.43	0.67	0.48	84.76	0.58
PI 181064	22	Midseason	44	968	51	1.41	1.37	4.91	6.13	0.46	0.36	84.87	0.51
PI 181065	34	Midseason	18	161	50	1.31	1.51	5.78	6.35	0.47	0.55	83.47	0.57
PI 181916	15	Late	20	302	48	1.68	1.8	4.89	6.54	0.74	0.37	83.54	0.46
PI 182987	18	Early	15	1332	46	1.69	1.56	4.49	6.57	0.71	0.39	84.17	0.43
PI 182988	11	Midseason	10	79	54	1.23	1.44	4.52	6.04	0.55	0.57	85.01	0.65
PI 183076	15	Midseason	30	1786	46	1.41	1.48	6.01	6.28	0.69	0.6	83.01	0.52
PI 183078	14	Midseason	15	263	46	1.49	1.8	6.19	6.35	0.68	0.57	82.49	0.45
PI 183347	21	Late	46	1129	51	1.47	1.73	5.22	6.44	0.65	0.39	83.64	0.48
PI 183468	18	Late	18	1185	48	1.61	1.68	8.08	6.94	0.65	0.59	80.11	0.36
PI 183470	18	Midseason	13	1366	49	1.75	1.84	5.98	7.21	0.6	0.48	81.73	0.43
PI 184132	12	Midseason	13	134	50	1.5	1.52	5.46	7.02	0.54	0.55	82.92	0.51
PI 192949	18	Early	20	192	45	1.47	1.01	3.05	7.13	0.83	0.6	85.35	0.58
PI 202667	21	Early	36	280	45	1.5	1.44	5.17	6.81	0.75	0.45	83.29	0.62
PI 203128	34	Late	25	2297	51	1.6	1.48	4.99	6.47	0.52	0.36	84.17	0.45
PI 203130	15	Midseason	18	1934	48	1.68	2.05	4.93	6.29	0.64	0.48	83.49	0.46

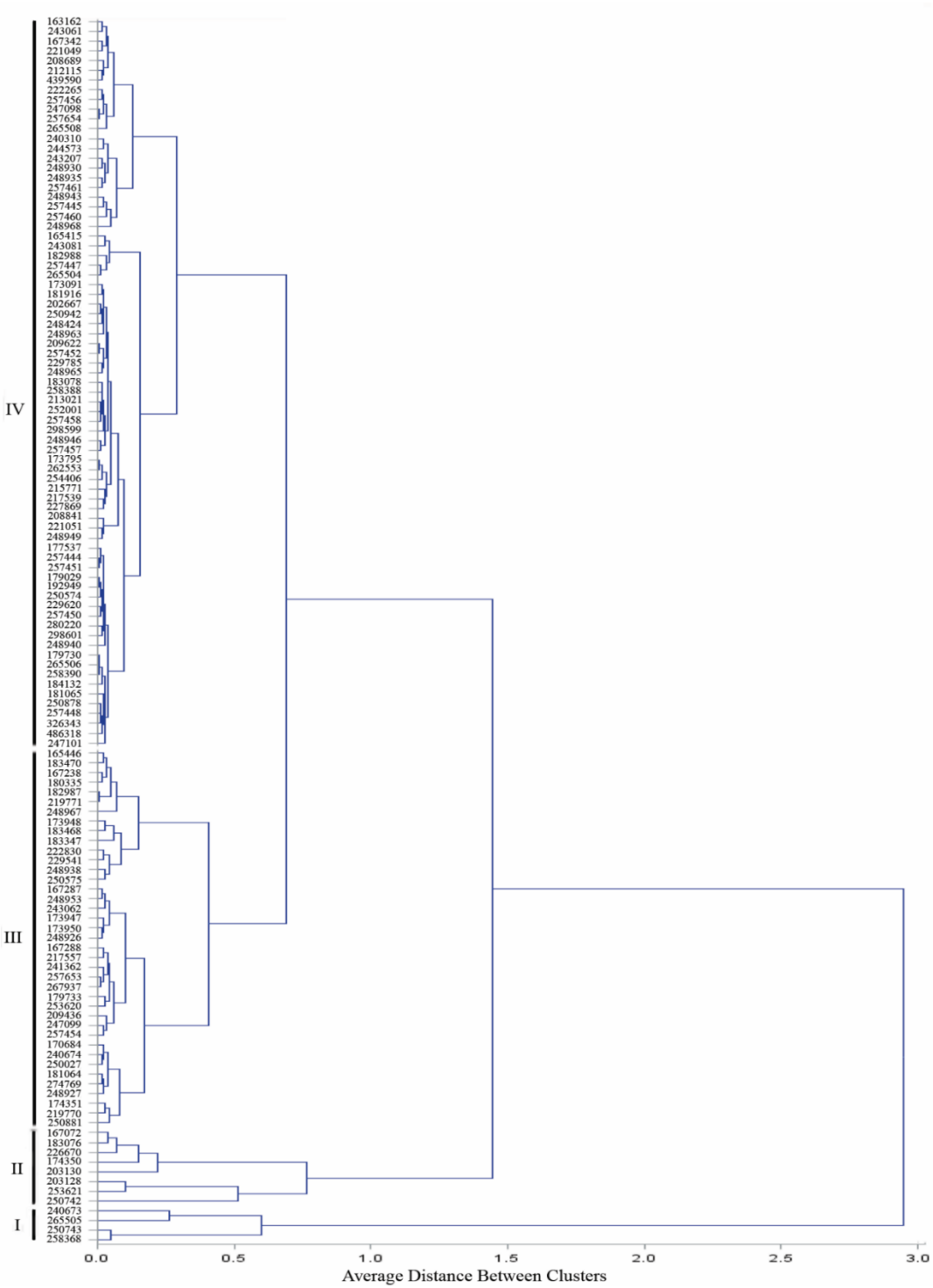
Accession number	Plant height. (dm.)	Maturity	Raceme length (cm.)	Seed no.	Oil content	Palmitic acid (%)	Stearic acid (%)	Oleic acid (%)	Linoleic acid (%)	Linolenic acid (%)	Gadoleic acid (%)	Rinoleic acid (%)	Dihydroxystearic acid (%)
PI 208689	10	Midseason	25	404	49	1.41	1.38	4.81	6.73	0.56	0.62	83.84	0.67
PI 208841	18	Late	38	352	50	1.53	1.61	5.05	6.43	0.63	0.61	83.66	0.5
PI 209436	31	Late	61	806	49	1.35	1.34	4.72	5.86	0.57	0.45	82.25	0.49
PI 209622	18	Midseason	56	285	51	1.69	2.1	6.01	6.47	0.55	0.44	82.34	0.41
PI 212115	24	Early	41	415	50	1.49	1.22	5.37	6.94	0.72	0.45	83.3	0.52
PI 213021	31	Midseason	15	269	51	1.63	1.61	5.6	6.65	0.51	0.47	83.14	0.41
PI 215771	40	Late	56	242	50	1.5	1.38	5.45	6.13	0.63	0.4	84.11	0.41
PI 217539	21	Midseason	38	241	51	1.49	1.82	7.26	6.54	0.55	0.59	81.34	0.43
PI 217557	27	Late	61	747	49	1.56	1.17	5.18	6.5	0.55	0.39	84.21	0.46
PI 219770	21	Midseason	25	1030	51	1.35	1.79	6.67	6.6	0.56	0.75	81.82	0.47
PI 219771	18	Early	15	1334	50	1.82	1.99	6.51	6.16	0.54	0.45	82.2	0.34
PI 221049	34	Early	41	467	49	1.69	2.71	8.26	6.73	0.62	0.59	79.05	0.36
PI 221051	24	Late	28	333	51	1.46	1.71	5.67	6.35	0.57	0.57	83.19	0.5
PI 222265	21	Midseason	48	479	48	1.49	1.78	5.27	5.88	0.76	0.26	84.16	0.43
PI 222830	15	Early	18	1227	44	1.38	1.92	5.64	5.56	0.84	0.4	83.84	0.44
PI 226670	9	Early	20	1690	46	1.53	1.48	3.69	5.58	0.86	0.39	86.08	0.42
PI 227869	15	Early	56	227	49	1.55	1.93	5.87	6.19	0.58	0.47	82.97	0.47
PI 229541	9	Midseason	20	1252	48	1.57	1.44	3.68	6.19	1.03	0.26	85.39	0.45
PI 229620	12	Early	35	184	49	1.78	1.0	3.33	7.15	1.19	0.58	84.43	0.55
PI 229785	18	Midseason	51	261	50	1.34	1.56	4.51	6.3	0.59	0.56	84.5	0.67
PI 240310	21	Late	61	582	50	1.23	1.29	4.6	5.66	0.72	0.29	85.58	0.65
PI 240673	12	Midseason	25	4321	61	1.5	1.68	6.19	6.72	0.65	0.53	82.31	0.45
PI 240674	12	Midseason	38	938	47	1.41	1.24	6.09	6.07	0.55	0.45	83.84	0.39
PI 241362	12	Early	18	754	51	1.58	1.5	6.45	7.08	0.59	0.57	81.8	0.45
PI 243061	9	Midseason	38	438	49	1.49	1.29	5.0	7.35	0.65	0.82	82.82	0.61
PI 243062	9	Midseason	20	838	49	1.64	1.3	6.33	7.59	0.67	0.82	81.19	0.46
PI 243081	24	Midseason	51	80	50	1.49	2.01	4.28	6.18	0.85	0.44	84.23	0.55
PI 243207	24	Late	20	565	51	1.52	1.72	4.79	6.79	0.66	0.52	83.52	0.51
PI 244573	12	Late	38	575	48	1.42	1.07	3.56	5.98	0.9	0.36	86.06	0.66
PI 247098	18	Early	25	495	51	1.36	1.9	3.97	5.47	0.74	0.22	85.84	0.51
PI 247099	25	Midseason	30	796	46	1.73	1.28	3.67	6.74	1.41	0.31	84.5	0.4
PI 247101	13	Midseason	42	145	51	1.47	1.66	5.83	5.98	0.48	0.5	83.66	0.43
PI 248424	34	Early	36	291	49	1.25	0.87	4.7	6.02	0.79	0.59	85.18	0.63
PI 248926	40	Midseason	20	879	45	1.19	1.45	4.27	5.17	0.69	0.3	86.37	0.58
PI 248927	40	Midseason	30	966	50	1.44	2.25	5.53	6.15	0.66	0.47	83.01	0.51
PI 248930	40	Midseason	25	572	48	1.24	1.76	4.11	5.73	0.75	0.35	85.34	0.74
PI 248935	40	Midseason	25	546	44	1.38	1.76	5.22	5.49	0.61	0.29	84.75	0.51
PI 248938	40	Midseason	25	1263	53	1.44	1.43	3.92	5.59	0.55	0.29	86.36	0.45
PI 248940	40	Midseason	36	190	51	1.14	1.14	4.45	4.76	0.62	0.39	86.99	0.53
PI 248943	34	Early	13	619	50	1.66	1.38	5.55	6.22	0.54	0.44	83.75	0.48

Accession number	Plant height. (dm.)	Maturity	Raceme length (cm.)	Seed no.	Oil content	Palmitic acid (%)	Stearic acid (%)	Oleic acid (%)	Linoleic acid (%)	Linolenic acid (%)	Gadoleic acid (%)	Rinoleic acid (%)	Dihydroxystearic acid (%)
PI 248946	37	Early	20	276	46	1.41	1.67	4.49	5.35	0.63	0.47	85.56	0.44
PI 248949	40	Midseason	25	344	47	1.38	1.36	4.62	5.73	0.55	0.41	85.49	0.47
PI 248953	43	Midseason	30	854	49	1.32	1.48	4.63	5.48	0.61	0.32	85.77	0.42
PI 248963	27	Midseason	38	308	49	1.17	1.61	6.16	5.36	0.62	0.66	84.0	0.45
PI 248965	31	Midseason	51	269	44	1.55	1.36	4.35	6.36	0.63	0.35	84.9	0.51
PI 248967	40	Early	51	1426	51	1.87	1.52	4.02	7.51	0.67	0.37	83.58	0.48
PI 248968	40	Midseason	38	668	52	1.55	1.71	5.42	6.6	0.63	0.51	83.13	0.47
PI 250027	27	Early	30	931	53	1.67	2.08	4.36	6.08	0.65	0.24	84.58	0.35
PI 250574	27	Early	20	193	44	1.34	1.5	4.9	6.22	0.76	0.46	84.31	0.53
PI 250575	31	Late	38	1289	51	1.71	1.81	4.87	7.06	0.58	0.38	83.19	0.43
PI 250742	14	Midseason	25	2918	53	1.38	1.63	4.14	6.65	0.5	0.48	84.73	0.51
PI 250743	19	Midseason	36	3558	53	1.57	1.63	5.46	6.37	0.64	0.51	83.44	0.39
PI 250878	12	Late	30	170	49	1.51	1.55	4.65	5.67	0.92	0.43	84.99	0.31
PI 250881	34	Early	38	1004	44	1.43	2.37	5.1	5.57	0.97	0.42	83.67	0.48
PI 250942	18	Early	30	291	49	1.59	1.53	4.09	6.26	0.88	0.43	84.9	0.34
PI 252001	27	Early	10	253	47	1.62	1.55	3.8	7.18	0.64	0.63	84.15	0.45
PI 253620	37	Early	25	718	50	1.49	1.71	5.39	6.7	0.51	0.65	83.07	0.49
PI 253621	18	Early	30	2409	53	1.28	1.39	4.6	6.28	0.57	0.47	84.88	0.54
PI 254406	31	Early	15	222	41	1.59	1.85	4.47	6.5	0.73	0.44	83.98	0.46
PI 257444	24	Early	30	205	48	1.42	1.94	4.27	6.74	0.59	0.59	83.82	0.65
PI 257445	18	Early	20	607	50	1.34	1.59	5.66	6.34	0.67	0.84	82.93	0.65
PI 257447	21	Early	30	53	52	1.46	2.16	6.08	5.95	0.49	0.62	82.85	0.4
PI 257448	15	Early	30	164	46	1.36	1.96	4.23	5.9	0.63	0.43	84.97	0.55
PI 257450	21	Midseason	36	181	44	1.55	1.93	4.82	5.72	0.68	0.41	84.52	0.38
PI 257451	24	Early	36	207	45	1.77	3.0	4.99	7.18	0.72	0.74	81.23	0.4
PI 257452	24	Early	56	283	49	1.38	1.99	6.83	6.44	0.58	0.9	81.38	0.53
PI 257454	31	Early	25	816	50	1.48	1.35	4.42	6.49	0.56	0.26	85.04	0.43
PI 257456	34	Early	46	488	51	1.45	1.98	6.1	6.65	0.58	0.72	82.0	0.54
PI 257457	37	Early	30	268	47	1.28	2.61	4.76	6.17	0.6	0.51	83.67	0.43
PI 257458	27	Early	25	251	49	1.37	1.72	6.33	6.44	0.56	0.59	82.47	0.54
PI 257460	21	Early	30	641	50	1.51	1.55	5.0	6.83	0.67	0.49	83.5	0.47
PI 257461	21	Early	25	542	49	1.42	1.52	4.65	6.87	0.56	0.71	83.6	0.69
PI 257653	18	Early	24	774	53	1.51	1.82	5.57	6.31	0.52	0.48	83.38	0.43
PI 257654	18	Early	30	491	49	1.3	1.57	3.48	6.39	0.89	0.32	85.38	0.68
PI 258368	9	Early	30	3503	52	1.66	1.61	5.32	7.44	0.57	0.63	82.39	0.41
PI 258388	12	Early	10	248	44	2.0	1.15	4.6	8.68	0.85	0.62	81.85	0.27
PI 258390	15	Early	10	153	45	1.38	1.46	5.62	6.58	0.75	0.79	82.89	0.55
PI 262553	15	Early	25	228	49	1.85	1.85	4.2	7.59	0.58	0.47	83.08	0.4
PI 265504	15	Early	25	44	54	1.65	1.94	4.19	7.37	0.61	0.37	83.47	0.42
PI 265505	9	Early	25	4029	51	1.53	1.26	3.5	7.63	0.69	0.56	84.29	0.57

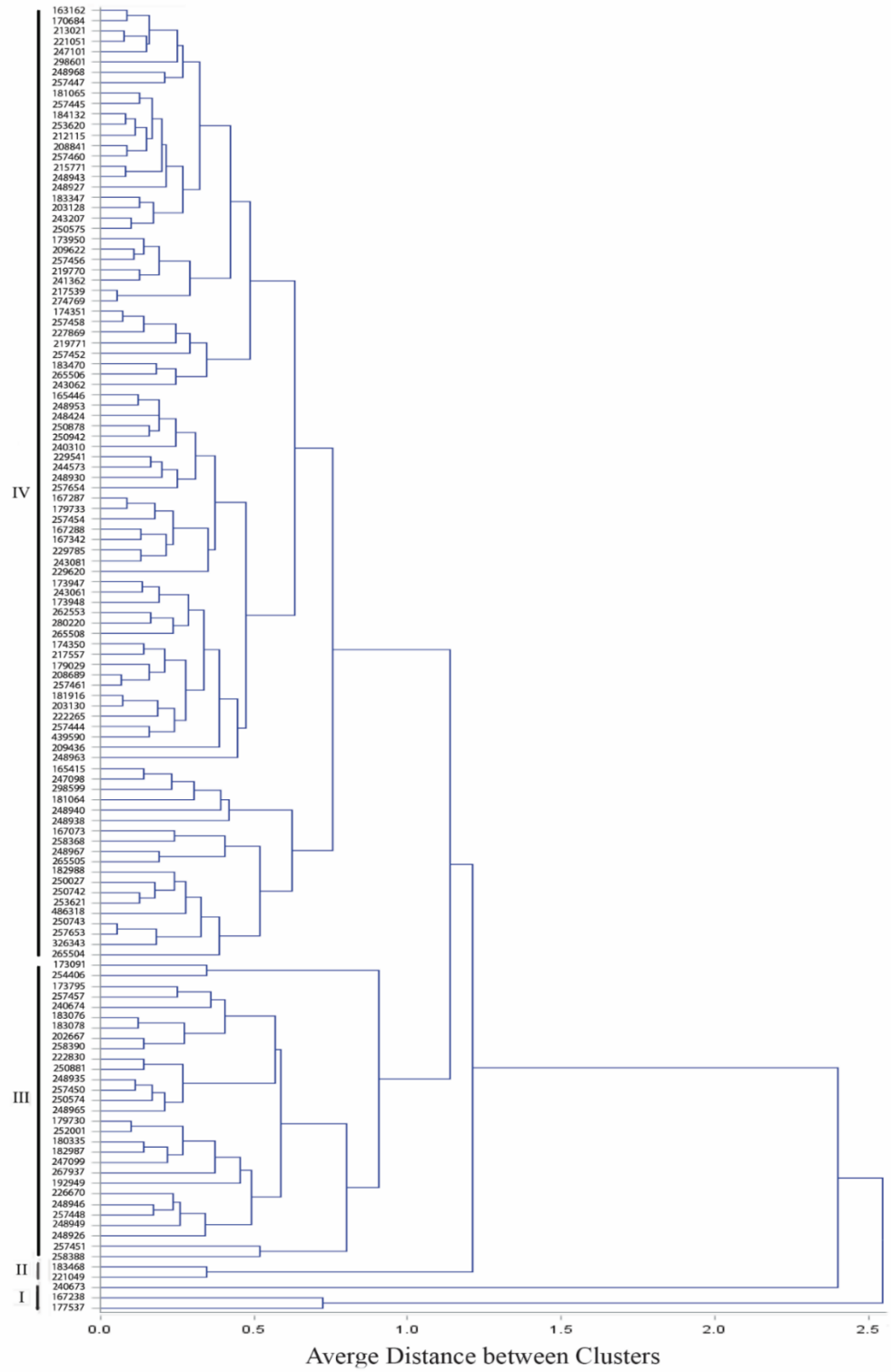
Accession number	Plant height. (dm.)	Maturity	Raceme length (cm.)	Seed no.	Oil content	Palmitic acid (%)	Stearic acid (%)	Oleic acid (%)	Linoleic acid (%)	Linolenic acid (%)	Gadoleic acid (%)	Rinoleic acid (%)	Dihydroxystearic acid (%)
PI 265506	9	Early	15	151	49	1.8	2.43	5.52	7.25	0.94	0.51	81.28	0.3
PI 265508	15	Early	23	519	50	1.69	1.75	4.36	7.12	0.63	0.52	83.46	0.49
PI 267937	21	Late	13	769	47	2.12	1.42	3.23	7.79	1.16	0.32	83.51	0.45
PI 274769	12	Early	33	964	51	1.61	1.66	7.42	6.59	0.47	0.62	81.33	0.33
PI 280220	9	Late	12	206	49	1.83	2.03	3.79	7.02	0.99	0.61	83.26	0.49
PI 298599	8	Late	30	263	52	1.35	1.65	4.03	5.88	0.74	0.36	85.47	0.53
PI 298601	5	Late	25	192	51	1.29	1.67	6.82	5.75	0.54	0.74	82.75	0.48
PI 326343	10	Late	20	166	53	1.25	1.98	5.26	5.89	0.61	0.45	84.08	0.5
PI 439590	15	Late	30	422	48	1.47	1.42	4.1	6.6	0.96	0.78	84.24	0.46
PI 486318	25	Late	40	166	53	1.37	0.94	4.79	6.83	0.68	0.67	84.07	0.67

**Supplemental Table 2. Descriptive scales of qualitative traits in the entire collection.**

<b>Trait</b>	<b>Description</b>	<b>No. of accessions</b>	<b>Percentage (%)</b>
Plant height	5 – 8.8 dm	11	1.06
	8.8 – 12.6 dm	54	5.22
	12.6 – 16.4 dm	64	6.19
	16.4 – 20.2 dm	44	0.04
	20.2 – 24 dm	65	6.29
	24 – 27.8 dm	46	4.45
	27.8 – 31.6 dm	23	2.22
	31.6 – 35.4 dm	15	1.45
	35.4 – 39.2 dm	11	1.06
	39.2 – 43 dm	19	1.83
Maturity	Early	132	12.77
	Midseason	114	11.03
	Late	89	8.61
Raceme length	10 – 15.6 cm	45	4.35
	15.6 – 21.2 cm	57	5.51
	21.2 – 26.8 cm	54	5.22
	26.8 – 32.4 cm	57	5.51
	32.4 – 38 cm	42	4.06
	38 – 43.6 cm	32	3.09
	43.6 – 49.2 cm	6	0.58
	49.2 – 54.8 cm	7	0.67
	54.8 – 60.4 cm	8	0.77
	60.4 – 66 cm	5	0.48
Seed color	Brown	192	18.58
	Tan	47	4.54
	Reddish brown	71	6.87
Seed size	Small	88	0.08
	Medium	195	18.87
	Large	28	2.71
Stem color	Green	170	16.45
	Red	129	12.48
	Green and red	36	3.48



**Supplemental Figure 1. Unweighted pair group method using mathematical averages (UPGMA) dendrogram of 126 selected core accessions for morphological and seed number data.**



**Supplemental Figure 2. Unweighted pair group method using mathematical averages (UPGMA) dendrogram of 126 selected core accessions for % oil and fatty acid data.**