

Table S1. The names, certification years, and pedigrees of the 79 early-maturing cotton accessions

Number	Cultivars name	Years	Region	Pedigrees
1	ICR-CAAS10	1980	Anyang	Heishanmian1-derived Lines
2	ICR-CAAS14	1989	Anyang	211×Liao6913
3	ICR-CAAS16	1990	Anyang	Zhong 211 (ICR-CAAS10-derived Lines) ×Liao4086 (Liaomian7-derived Lines)
4	ICR-CAAS18	1990	Anyang	(6908×Lambretta GL-5)F ₄ × (Heishanmian1×Lambretta GL-5)F ₃
5	ICR-CAAS24	1995	Anyang	Zhong 343× (ICR-CAAS10×USA early maturity cotton B)
6	ICR-CAAS20	1996	Anyang	(Shan 2942×Zhong 642) F ₁ ×[(Zhong 607×Liao4086) ×PR80]F ₁
7	ICR-CAAS26	1996	Anyang	006×ICR-CAAS10
8	ICR-CAAS27	1997	Anyang	Zhong 0710×Zhong 5427
9	ICR-CAAS35	1999	Anyang	Zhong 23021× (ICR-CAAS12×Chuan1704)
10	ICR-CAAS36	1999	Anyang	H109×Zhong 662
11	ICR-CAAS37	1999	Anyang	Zhong R114-derived Lines
12	ICR-CAAS42	2002	Anyang	Zhong 061723×Zhong 916448
13	ICR-CAAS50	2005	Anyang	H109×C662
14	ICR-CAAS58	2006	Anyang	SGK 27×92-047
15	ICR-CAAS64	2007	Anyang	SGK 27×Zhong 394
16	Xinluzao1	1978	Northwest Inland Region (Xinjiang)	Xin 722-derived Lines (69-1)
17	Xinluzao3	1988	Northwest Inland Region (Xinjiang)	(66-341×USA Glandless Cotton) ×Jingzhou 4588
18	Xinluzao4	1994	Northwest Inland Region (Xinjiang)	(66-241×74-47W) ×DP 70
19	Xinluzao6	1997	Northwest Inland Region (Xinjiang)	85-174×Bailschlo
20	Xinluzao7	1997	Northwest Inland Region (Xinjiang)	347-2×Tashkent 2
21	Xinluzao9	1999	Northwest Inland Region (Xinjiang)	(Xinluzao6×Bailschlo) ×ICR-CAAS17
22	Xinluzao10	1999	Northwest Inland Region (Xinjiang)	(Heishanmian×02II) ×Zhong 381
23	Xinluzao11	1999	Northwest Inland Region (Xinjiang)	Yuzao 202-derived Lines
24	Xinluzao12	2000	Northwest Inland Region (Xinjiang)	Liao 95-25-derived Lines

25	Jiumian2	2001	Northwest Inland Region (Gansu)	77-118×ICR-CAAS16
26	Xinluzao13	2002	Northwest Inland Region (Xinjiang)	83-14× (Zhong 5601+1639)
27	Xinluzao20	2005	Northwest Inland Region (Xinjiang)	Xinluzao16-derived Lines
28	Xinluzao22	2005	Northwest Inland Region (Xinjiang)	45-1×Xinluzao6
29	Xinluzao23	2005	Northwest Inland Region (Xinjiang)	ICR-CAAS27-derived Lines
30	Xinluzao25	2006	Northwest Inland Region (Xinjiang)	[Xi 5×Bailschlo)×Jin14]F ₁ ×ICR-CAAS17
31	Xinluzao26	2006	Northwest Inland Region (Xinjiang)	Xinluzao 8 Variant Plant
32	Xinluzao27	2006	Northwest Inland Region (Xinjiang)	7147×Bailschlo
33	Xinluzao30	2006	Northwest Inland Region (Xinjiang)	97-185-derived Lines
34	Xinluzao31	2006	Northwest Inland Region (Xinjiang)	(Xinluzao6×Bailschlo) ×Daizimian
35	Xinluzao32	2006	Northwest Inland Region (Xinjiang)	Takla Makan 77-derived Lines
36	Xinluzao34	2007	Northwest Inland Region (Xinjiang)	Shi 87 Variant Plant
37	Xinluzao35	2007	Northwest Inland Region (Xinjiang)	((Xinluzao3×Zhong 2621)×Kan 35) ×97-185
38	Xinluzao36	2007	Northwest Inland Region (Xinjiang)	1304×BD103
39	Xinluzao37	2007	Northwest Inland Region (Xinjiang)	Xi 8×(Liao 9001,Xi 5 and 90-2)
40	Jiumian3	2007	Northwest Inland Region (Gansu)	Liaomian16 Variant Plant
41	Xinluzao39	2008	Northwest Inland Region (Xinjiang)	Xinluzao4×Bailschlo
42	Jiumian8	2008	Northwest Inland Region (Gansu)	Zhong 404×Xinluzao7
43	Jiumian9	2009	Northwest Inland Region (Gansu)	ICR-CAAS 27× (Zhong 65110×Xinluzao7)
44	Heishanmian1	1974	Liaoh River Basin	Jinmian1-derived Lines
45	Liaomian5	1977	Liaoh River Basin	614007(Liaomian1×Zhong 1470)×ICR-CAAS3
46	Liaomian6	1981	Liaoh River Basin	[Liaomian3×5998(F ₅)]×[Qiu623×Shu angqing(F ₄)]

47	Liaomian7	1983	Liaohe River Basin	2034+Xinlu209+Keke4104+Maste 111A+Daizimian16+64-15
48	Liaomian9	1985	Liaohe River Basin	Liao661×Hei68-35
49	Liaomian10	1990	Liaohe River Basin	Shan 3215-derived Lines
50	jnmian3	1991	Liaohe River Basin	Jin496×Sumian1
51	Liaomian12	1994	Liaohe River Basin	Liao4228×Liao4082
52	Liaomian15	1996	Liaohe River Basin	Liao 1038 Variant Plant
53	Liaomian16	1999	Liaohe River Basin	4086× (Liaomian6,4696 and 4249)
54	Liaomian17	2000	Liaohe River Basin	78-4084×82-4258
55	Liaomian18	2002	Liaohe River Basin	87-7109×Liao1038-6
56	Liaomian19	2003	Liaohe River Basin	Liao205×33B
57	Jinzhong200	1961	YRB (Shanxi)	O -д1-derived Lines
58	Lumian1	1976	YRB (Shandong)	ICR-CAAS2×1195
59	Sumian1	1988	YRB (Jiangsu)	86-1×[1087-2 (Daihongdai×DP16) ×Heishanmian1]
60	Yumian3	1988	YRB (Henan)	Shangqiu17×Ke310
61	Yumian5	1988	YRB (Henan)	ICR-CAAS10× (Heishanmian1×Mianxiang1)
62	Lumian10	1990	YRB (Shandong)	M-100×ICR-CAAS10
63	Yumian7	1992	YRB (Henan)	ICR-CAAS10× (Aiganzao×B743) F ₃
64	Yumian9	1993	YRB (Henan)	(Kan 5×ICR-CAAS10) F ₁ ×ICR- CAAS14
65	Yumian10	1993	YRB (Henan)	Shang40×86-1×Ji366
66	Sumian10	1995	YRB (Jiangsu)	Yanmian 48×20-9
67	Sumian11	1997	YRB (Jiangsu)	Xiangkan 159×USA CAU'CS-2-81
68	Jinmian23	1997	YRB (Shanxi)	Lu 331-derived Lines
69	Jinmian26	1998	YRB (Shanxi)	<i>Bt</i> gene into Jinmian 7
70	Jinmian28	1999	YRB (Shanxi)	91-57-derived Lines
71	Jinmian34	2002	YRB (Shanxi)	VSG×95-1
72	Jinmian36	2003	YRB (Shanxi)	Jinmian 19×Yun 148
73	Jinmian44	2005	YRB (Shanxi)	<i>CryIAc3</i> gene into Ji 492
74	Lumianyan27	2006	YRB (Shandong)	Lu 613×GK12
75	Lumianyan28	2006	YRB (Shandong)	(Lumian 14×Shiyuan321) F ₁ × (5186,Yumian 19,Zhong 12,Zhong 19,Qinyuan 142,Lu8784)
76	Kings improved1	1890	United States	Sugar block cotton
77	Foster cotton6243	-	United States	Foster cotton
78	Soviet Union91-357	-	Former Soviet Union	Former USSR 61
79	Soviet Union10633	-	Former Soviet Union	Former USSR

Table S2. Fingerprinting data for the 79 early-maturing upland cotton accessions

SN	Cultivar	NAU 4044	MUSS 440	MON_CGR 5565	GH 222	NAU 1190	BNL 1694
1	ICR-CAAS10	10001	00101	001100	001	101	10
2	ICR-CAAS14	10001	11101	001100	010	101	01
3	ICR-CAAS16	10001	11011	001100	001	101	01
4	ICR-CAAS18	10010	00101	001100	001	011	10
5	ICR-CAAS24	00101	00101	101101	101	101	11
6	ICR-CAAS20	10010	00101	001100	100	011	10
7	ICR-CAAS26	10101	00101	110001	001	011	01
8	ICR-CAAS27	10001	11101	001100	110	111	10
9	ICR-CAAS35	11000	11000	010001	001	101	10
10	ICR-CAAS36	10001	11101	001100	101	101	10
11	ICR-CAAS37	00100	11000	001010	010	101	01
12	ICR-CAAS42	00100	00101	100001	100	011	10
13	ICR-CAAS50	10001	11000	100001	100	101	10
14	ICR-CAAS58	10100	00101	100001	100	011	10
15	ICR-CAAS64	00100	00000	100001	100	000	10
16	Xinluzao1	11000	00101	100001	100	101	01
17	Xinluzao3	10101	00101	101101	010	101	01
18	Xinluzao4	10001	00011	100001	100	010	01
19	Xinluzao6	10010	11000	001100	001	101	01
20	Xinluzao7	10001	11000	100001	010	111	01
21	Xinluzao9	10010	00101	100001	001	101	01
22	Xinluzao10	01010	11101	100001	001	011	01
23	Xinluzao11	10101	11101	001110	001	111	11
24	Xinluzao12	11101	00101	001110	010	101	11
25	Jiumian2	10100	00101	001100	101	101	01
26	Xinluzao13	10001	11000	010001	001	101	10
27	Xinluzao20	11101	01111	001100	110	101	11
28	Xinluzao22	11000	00101	001010	100	101	10
29	Xinluzao23	10100	00101	111111	001	101	01
30	Xinluzao25	11011	11011	001110	101	101	01
31	Xinluzao26	00011	11011	001110	001	110	11
32	Xinluzao27	10001	11000	001100	001	011	10
33	Xinluzao30	10100	00101	001100	100	101	01
34	Xinluzao31	10010	00101	001100	001	101	01
35	Xinluzao32	01010	11000	100001	001	011	10
36	Xinluzao34	01000	00011	100001	001	101	10
37	Xinluzao35	00101	00101	111111	001	111	11
38	Xinluzao36	10010	11000	100001	010	011	01
39	Xinluzao37	00101	01111	001110	001	101	01
40	Jiumian3	00100	00101	001100	101	101	01

41	Xinluzao39	01000	00101	010001	001	011	10
42	Jiumian8	00100	11000	001100	001	101	01
43	Jiumian9	10011	00101	101101	100	101	01
44	Heishanmian1	10001	11000	001010	001	011	10
45	Liaomian5	00001	00101	100001	010	011	01
46	Liaomian6	00100	00101	001010	010	101	01
47	Liaomian7	00100	00101	001100	100	101	01
48	Liaomian9	10101	00101	001100	011	101	11
49	Liaomian10	11101	00101	001100	010	101	10
50	Liaojinmian3	10100	11000	001010	001	101	01
51	Liaomian12	00100	00101	001100	011	101	01
52	Liaomian15	10100	00011	001100	001	-	10
53	Liaomian16	10100	00101	-	010	101	10
54	Liaomian17	00100	01111	001100	001	101	01
55	Liaomian18	10100	00011	001100	010	100	10
56	Liaomian19	00100	01111	101101	010	010	10
57	Jinzhong200	10001	00101	100001	010	101	10
58	Lumian1	10001	01111	111111	001	110	10
59	Sumian1	00100	00011	001010	010	101	10
60	Yumian3	10100	00101	111111	011	011	11
61	Yumian5	11000	00101	001100	001	101	10
62	Lumian10	10010	00101	110001	001	101	01
63	Yumian7	10100	00101	001010	100	101	10
64	Yumian9	10001	00101	001100	001	101	01
65	Yumian10	11100	00101	010001	001	011	01
66	Sumian10	10101	00011	001100	011	010	01
67	Sumian11	11100	00101	110001	001	101	11
68	Jinmian23	11111	11101	111111	101	101	10
69	Jinmian26	11111	11101	101101	101	101	01
70	Jinmian28	10100	11101	101101	011	101	01
71	Jinmian34	10100	00101	100001	001	101	01
72	Jinmian36	11000	00011	010001	010	010	01
73	Jinmian44	00100	00011	100001	001	010	01
74	Lumianyan27	10100	00011	-	001	010	01
75	Lumianyan28	01100	01111	110001	010	010	01
76	Kings improved1	10001	00101	001100	001	011	10
77	Foster cotton6243	10100	00101	001100	001	101	10
78	Soviet Union91-357	00011	00101	001100	011	110	10
79	Soviet Union10633	10100	00011	001100	001	100	01