

Supplementary Table 1. List and description of released rice varieties in Iran (Alinia *et al.* 2015; Anonymous 2019; Modarresi 2022).

No.	Variety	Year of release	Average grain yield (t ha ⁻¹)	Rice breeder (s)	Breeding method	Parents	Distinctive feature
1	Mehr	1966	4-4.5	Mohammad Javad Moein	Pure line selection	Musa Tarom (landrace)	Higher yield compared to the conventional cultivars (In the 1960s)
2	Firouz	1966	4-4.5	Mohammad Javad Moein	Pure line selection	Firouz Kandeh (landrace)	Higher yield compared to the conventional cultivars (In the 1960s)
3	Mesbah	1967	5.5-6	Mohammad Javad Moein	Introduction	Century Patna (USA)	Higher yield with lower plant height compared to local populations, susceptible to seed shattering and low cooking quality
4	Gerdeh Khorsand	1967	6.5	Mohammad Javad Moein	Introduction	Unknown (USA)	Chilling tolerant, high yield, moderate maturing, grains with low market value and stickiness of rice after cooking
5	Taichung 65	1971	7	Mohammad Javad Moein	Introduction	Shinriki/ Kameji (China)	High yield, lodging resistant, grains with low market value and stickiness of rice after cooking
6	Fuji minori	1971	7.5	Mohammad Javad Moein	Introduction	Fukei (Japan)	High yield, lodging resistant, chilling tolerant, resistant to seed shattering, grains with low market value and stickiness of rice after cooking
7	Gil 1	1972	4-4.5	Mohammad Saleh Mohammad	Pedigree	Musa Tarom/Ancitco	High yield (compared to landraces), lodging resistant, blast disease resistant, high amylose content, and non-fragrant

8	Amol 1	1972	6.5-7	Salehi Mohammad Saleh Mohammad Salehi Mohammad	Pedigree	Taichung 65/Tarom Firouzkandeh	High yield, high tillering capacity, lodging resistant, blast disease resistant, high amylose content, and non-fragrant
9	Gil 3	1973	5-5.5	Saleh Mohammad Salehi and Mohammad Javad Moein	Pedigree	IR498/Salari	High yield (compared to landraces), semi-dwarf, lodging resistant, blast disease resistant, high amylose content, and non-fragrant
10	Ahvaz 1	1974	5.5-6	Hossein Attar	Introduction	IR5 (Philippines)	High yield (compared to landraces), lodging resistant, blast disease resistant, high amylose content, low cooking quality, and non-fragrant
11	Amol 2	1979	6.5	Ahmad Eshraghi	Introduction	IR28 (Philippines)	High yield, lodging resistant, blast disease resistant, moderate maturing, sensitive to sheath blight, high amylose content, low cooking quality, and non-fragrant
12	Khazar	1983	5-6	Mohammad Saleh Mohammad Salehi	Introduction	IR2071-625-1-52/ TNAU 7456 (Philippines)	High yield (compared to landraces), Suitable plant height, dark green leaf color, and terracotta paddy color, thick stems and lodging resistant, blast disease resistant, cultured for 40 years in Guilan
13	Amol 3	1983	8.5	Hassan AbbasKhani Davanlou	Introduction	GEB24/TN1= Sona (India)	High yield, lodging resistant, blast disease resistant, late-maturing, sensitive to rice striped stem borer, high amylose content, low cooking quality, and non-fragrant

14	Haraz	1985	7	Ahmad Eshraghi	Pedigree	(Domsiah/IR8)/IR498	High yield, blast disease resistant, sensitive to rice striped stem borer, non-uniform plants, and low cooking quality
15	Sepidroud	1987	7	Mohammad Saleh Mohammad Salehi	Pedigree	(IR28/IR8)/GarmSadri	High yield, moderate maturing, Suitable plant height, lodging resistant, blast disease resistant, high amylose content, and non-fragrant
16	Mazand	1989	6	Gholam Abbas Kianoosh	Introduction	CH21 (Suriname)	High yield (compared to landraces), good cooking quality, non-uniform plants, and susceptible to seed shattering
17	Onda	1990	5	Gholam Abbas Kianoosh	Introduction	Unknown (Italy)	Chilling tolerant, semi-dwarf and lodging resistant, grains with low market value and stickiness of rice after cooking
18	Zayandeh Rood	1992	8	Hassan Ali Abedi	Pure line selection	Sorkkeh	High yield, late-maturing, and sensitive to lodging
19	Dasht	1993	7	Ahmad Eshraghi	Pedigree	Amol 1/IR28	High yield, susceptible to seed shattering, sensitive to rice striped stem borer and non-fragrant
20	Bejar	1993	6.5	Mohammad Saleh Mohammad Salehi	Pedigree	(Domsiah/IR8)/IR28	High yield, lodging resistant, blast disease resistant, moderate maturing, high amylose content and non-fragrant
21	Dorood Zan	1994	7.5	Mohammad Mahdi Bagheri and Mohammad Karim Masoumian	Introduction	Unknown (Philippines)	High yield, lodging resistant, non-fragrant and grains with the low market value

22	Cheram 1	1994	6.5	Karim Hosseini	Introduction	Unknown (Philippines)	High yield, late-maturing, non-fragrant, high amylose content and grains with the low market value
23	Nemat	1995	7.5	Ghorban Ali Nematzadeh	Pedigree	Amol 3/Sange Tarom	High yield, lodging resistant, blast disease resistant, late-maturing, high amylose content, low cooking quality, and non-fragrant
24	Sazandegi	1995	8	Hassan Ali Abedi	Pure line selection	Nowgaran	High yield and late-maturing
25	Cheram 2	1995	7.5	Karim Hosseini	Pure line selection	Champa	High yield, lodging resistant, blast disease resistant, grains with low market value and non-fragrant
26	Yasouj 1	1996	5.5	Ahad Karimi	Introduction	Boro Rice (India)	High yield (compared to landraces), lodging resistant, blast disease resistant, grains with low market value and non-fragrant
27	Yasouj 2	1996	4.5	Ahad Karimi	Pure line selection	Champa	High yield (compared to landraces), grains with the low market value
28	Yasouj 3	1997	6	Ahad Karimi	Pure line selection	Champa	High yield (compared to landraces), grains with the low market value
29	Cheram 3	1997	7.5	Karim Hosseini	Pure line selection	Champa Cheram	High yield, lodging resistant, grains with low market value and non-fragrant
30	Anbarboo	1997	3.5	Mr. Rad	Pure line selection	Anbarboo	Good cooking quality, late-maturing, sensitive to lodging, grains with low market value, and fragrant
31	Ilam	1997	6	Majid MirGohar	Pure line selection	Anbarboo	Good cooking quality, late-maturing, sensitive to lodging, grains with low market value, and fragrant
32	Neda	1998	7.5	Ghorban Ali	Pedigree	Hasansaraiy/Sangetarom/	High yield, lodging resistant, blast disease

				Nematzadeh		Amol3	resistant, late-maturing, high amylose content, grains with good market value, low cooking quality and non-fragrant
33	Koohrang	2000	4.5	Seyyed Jalil Noorbakhshian	Pure line selection	Champa Mahalli	Good cooking quality, late-maturing, sensitive to lodging, grains with low market value, and fragrant
34	Dorfak	2001	5.5	Majid Nahvi	Pedigree	Sepidroud/Salari	High yield, lodging resistant, blast disease resistant, late-maturing, low cooking quality, and non-fragrant
35	Sahel	2001	7	Ahmad Eshraghi	Introduction	Unknown (Philippines)	High yield, lodging resistant, blast disease resistant, moderate maturing and non-fragrant
36	Fajr	2001	6	Ahmad Eshraghi	Introduction	IR62781-175-1-10 (Philippines)	High yield, lodging resistant, blast disease resistant, sensitive to rice striped stem borer, grains with good market value, moderate maturing and non-fragrant
37	Saleh	2002	5	Mohammad Saleh Mohammad Salehi	Pedigree	IR39385-20-1-2-1-2/Khazar	High yield, lodging resistant, blast disease resistant, moderate maturing, high amylose content, low cooking quality, and non-fragrant
38	Kadoos	2003	5.5	Hossein Rahim Soroush	Introduction	IR 64669-153-2-3 (Philippines)	High yield, lodging resistant, blast disease resistant, moderate maturing, and susceptible to seed shattering
39	Shafagh	2003	7	Morteza Nasiri	Introduction	IR67015-94-2-3 (Philippines)	High yield, lodging resistant, blast disease resistant, sensitive to sheath blight, and moderate maturing
40	Tabesh	2003	5	Habib Arefi	Mutation	Tarom Mahalli	High yield, lodging resistant, blast disease resistant, low cooking quality, and non-uniform

41	Pooya	2003	5	Habib Arefi	Mutation	Mousa Tarom	plants High yield, lodging resistant, blast disease resistant, low cooking quality, and non-uniform plants
42	Danial	2006	6	Foad Moradi and AbdolAli Gilani	Introduction	LD183 (Philippines)	High yield, lodging resistant, blast disease resistant, low cooking quality, and non-fragrant
43	Deylam	2007	9	Hamid Dorosti	Introduction (Hybrid)	IR58025 A /IR426863 (Philippines)	First aromatic hybrid rice in Iran, High yield, good cooking quality, late-maturing, High yield, lodging resistant, blast disease resistant, late maturing, grains with good market value, weak-fragrant
44	Shiroudi	2008	7.5	Ali Mohaddesi	Pedigree	Deylamani/Khazar	High yield, lodging resistant, blast disease resistant, low cooking quality, and non-fragrant
45	Karim	2008	8	Seyyed Karim Hosseini	Introduction	A7983IR62873-511-1-9 (Philippines)	High yield, lodging resistant, blast disease resistant, low cooking quality, and non-fragrant
46	Keshvari	2011	7.5	Morteza Nasiri	Introduction	IR66233-169-3-3 (Philippines)	High yield, lodging resistant, blast disease resistant, low cooking quality, and non-fragrant
47	Koohsar	2011	5	Morteza Nasiri	Introduction	HSC55 (Philippines)	High yield (compared to landraces), lodging resistant, blast disease resistant, grains with the low market value
48	Gohar	2016	8	Hamid Dorosti, Hossein Rahim Soroush, Abbas Shahdi, and Maryam Hosseini Chaleshtori	Introduction	Pusa 1238-1/Pusa 1238-81-6 (India)	High yield, lodging resistant, blast disease resistant, late-maturing, intermediate amylose content, and fragrant
49	Gilaneh	2016	5.5	Mehrzaad AlahGholipour	Back cross and Pedigree	(Saleh/Abjibuji)/Abjibuji	High yield (compared to landraces), lodging resistant, sensitive to blast disease, early-

50	Rash	2017	5.5	Alireza Tarang	Introduction	IR66673-44/Basmati370 (Philippines)	maturing, intermediate amylose content, and fragrant High yield (compared to landraces), lodging resistant, blast disease resistant, moderate maturing, intermediate amylose content, and fragrant
51	Roshan	2017	7.5	Ghorban Ali Nematzadeh and Morteza Oladi	Mutation	Nemat	High yield, lodging resistant, blast disease resistant, moderate maturing, intermediate amylose content, and fragrant
52	Shahryar	2017	8.5	Ghorban Ali Nematzadeh and Morteza Oladi	Mutation	Amo13	High yield, lodging resistant, blast disease resistant, moderate maturing, intermediate amylose content, and non-fragrant
53	Tisa	2018	7	Rahman Erfani	Pedigree	(Amo13/Binam)/IR67015/ 22/6/2	High yield, lodging resistant, blast disease resistant, moderate maturing, intermediate amylose content, and fragrant
54	Anam	2018	5	Mehrzad AlahGholipour	Pedigree	Saleh/Hashemi	High yield, lodging resistant, early-maturing, intermediate amylose content, high protein, and fragrant
55	Kian	2020	5	Ali Akbar Ebadi	Mutation	Tarom Mahalli	High yield (compared to landraces), drought tolerant, early-maturing, intermediate amylose content, and fragrant
56	Gilar	2020	5.5	Mehrzad AlahGholipour	Pedigree	Saleh/Hashemi	High yield, lodging resistant, early-maturing, intermediate amylose content, and fragrant
57	Haj Heydari	2020	8	Ahmad Mazandarani	Pure line selection	Fajr	High yield, lodging resistant, moderate- maturing, and intermediate amylose content
58	Toloe	2020	6.5	Ali Momeni	Pedigree	AliKazemi/Nemat	High yield, lodging resistant, early-maturing, intermediate amylose content, and fragrant