

Supplementary Table 1. Classification, breeding information, and filtered degree centrality of Korean *japonica* rice varieties.

Variety	Breeding year	Breeding region	Combination	Centrality	Community	Classification	Remark
Haedamssal	2014	NICS	YR25779/Koshihikari//Unkwang/YR25779	0.07	0	Periphery	Good grain quality
Haedeul	2017	NICS	Gopum/Gangweon4	0.02	1	Periphery	"
Alchanmi	2018	NICS	Junam/Chilbo	0.20	7	Core	"
Cheongpum	2015	NICS	Yeongdeog45/Samkwang	0.07	3	Bridge	"
Haepum	2013	NICS	Iksan493//Iksan495//Iksan496	0.30	7	Core	"
Samkwang	2003	NICS	Suweon361/Milyang101	0.07	3	Bridge	"
Sukwang	2011	NICS	HR20017-B-19-3-1//HR19574-B-63-2	0.29	5	Core	"
Misojinpum	2020	NICS	Milyang244/Milyang256	0.05	4	Periphery	"
Anpyeong	2018	NICS	YR24982-9-1/Saeilmi	0.05	4	Periphery	"
Younghojinmi	2009	NICS	Hitomebore/Junambyeo	0.07	5	Core	"
Saeodaebyeo	2012	NICS	Gru/Suweon472	0.01	2	Periphery	Variety name
Odaebyeo	1982	NICS	Akitsuho/Fuji269	0.05	1	Periphery	"
Saeodaebyeo1	2022	NICS	Cheolweon81/Unbong51	0.01	2	Periphery	"
Odaebyeo1ho	2005	NICS	Ipumbyeo/Jinbu10	0.02	1	Periphery	"
IS592BB	2017	NICS	Unkwang*2/SR31206-12	0.04	0	Periphery	"
Samkwang1ho	2015	NICS	Samkwang//Samkwang/Suweon152	0.07	3	Bridge	"
Sindongjin	1999	NICS	Hwayeongbyeo/YR13604Acp22	0.30	5	Core	"
Pyungan	2003	NICS	Iksan438//HR15003	0.25	5	Core	"
Dami	2006	NICS	Iksan438//Iksan426	0.30	5	Core	"
Chamdongjin	2020	NICS	Sindongjin*2//HR27195-59-3-5-5	0.24	5	Core	"
Gamtan	2024	NICS	Saeilmi/YR291119-3B-1	0.05	4	Periphery	"
Sindongjin1	2024	NICS	Jeonju623//Jeonju623/Jeonju624	0.19	5	Core	"
Dongjin	1981	NICS	Kimnaze/Nagdongbyeo//Sadominori	0.02	4	Periphery	"
Dongjin 1ho	2001	NICS	Hwayeongbyeo/HR12800-AC21	0.02	3	Bridge	"
Dongjin2	2005	NICS	Milyang165///Iksan438//HR14018//Iksan435	0.36	5	Core	"
Samkwang2	2023	NICS	Samkwang mutant (Sodium Azide)	0.07	3	Bridge	"
Sukwang1	2023	NICS	Sukwang/HR29177-AC70-1	0.34	7	Core	"
Saenuri	2007	NICS	Gyehwal17//HR14026	0.10	6	Periphery	"
JJ624LOX	2020	NICS	Saenuri/HR28896-31-3-1-1	0.08	6	Periphery	"
Ilmibyeo	1995	NICS	Milyang96//Milyang95//Seomjinbyeo	0.07	4	Periphery	"
Saeilmi	2011	NICS	Ilmibyeo*5//Hwayeongbyeo	0.06	4	Periphery	"
Ilpumbyeo	1990	NICS	Suweon295-SV3//Inabawase	0.00	Isolated	Isolated Accessions	"
Saeilpum	2017	NICS	Ilpum*4//SR30064-B2-B1-B8-20-2-1-61-21	0.01	1	Periphery	"
Saechilbo	2016	NICS	Gyehwa26//Yeongdeog44	0.01	1	Periphery	"

TCS 기반 SNP 네트워크 기반 분류

Supplementary Table 1. Continued.

Variety	year	Breeding region	Combination	Centrality	Community	Classification	Remark
Joun	2009	NICS	SR14880/Unbong20	0.00	Isolated	Isolated Accessions	Standard variety
Geumo	1988	NICS	Akitsuho/Fuji269	0.04	1	Periphery	"
Jopyeong	2010	NICS	HR16683-46-3/HR18129-13-16	0.00	Isolated	Isolated Accessions	"
Hwaseongbyeo	1985	NICS	Aichi37/Sammambyeo	0.00	Isolated	Isolated Accessions	"
Hwayeong	1991	NICS	Chukei830/YR4811Acp8	0.39	3	Bridge	"
Sobi	1999	NICS	Hwayeongbyeo/YR13604Acp22	0.25	5	Core	"
Nampyeongbyeo	1997	NICS	Iri390/Milyang95	0.00	Isolated	Isolated Accessions	"
Gangdaechan	2020	JARES	Saenuri//Sindongjin/Chucheong	0.05	6	Periphery	Related organizations
Chamdream	2014	GARES	Samkwang/Jojeongdo//Samkwang	0.07	3	Bridge	"
Saecheongmu	2016	JARES	Cheongmu/Saenuri	0.06	6	Periphery	"
Hitomebore	1991	Japan	Koshihikari/Hatsuboshi	0.10	1	Periphery	Japanese variety
Koshihikari	1956	Japan	Norin22/Norin1	0.07	1	Periphery	"
Chucheong	1969	Japan	Mandaimishiki//Wakaba/Kinnaze F5	0.00	Isolated	Isolated Accessions	"
JJ625LG	2020	NICS	HR30198-AC33/Boramchan	0.06	5	Core	Long grain
Amissal	2022	NICS	Boramchan*2/HR30198-AC33	0.05	5	Core	"
K-Long	2024	NICS	Jeonju625//Jeonju624/Jeonju625	0.05	6	Periphery	"
Jinkwang	2016	NICS	Unkwang/Koshihikari//Hopum	0.12	0	Periphery	Cultivation stability
Unkwang	2004	NICS	Iksan435/Cheotweon54	0.06	0	Periphery	"
Daebo	2011	NICS	YR21247-68-1/Yeongdeog35	0.34	5	Core	"
Haiami	2008	NICS	Jinmibeo (EMS)/Kyechwabyeo	0.00	Isolated	Isolated Accessions	"
Jinsumi	2008	NICS	Milyang165//YR16195/Milyang169	0.14	7	Core	"
Hopum	2006	NICS	Milyang165*2/Iksan438	0.35	5	Core	"
Yechan	2017	NICS	Hopum/Iksan537	0.37	7	Core	"
Chilbo	2007	NICS	Yeongdeog26/Koshihikari	0.05	1	Periphery	"
Gopum	2004	NICS	SR15225/SR15140	0.00	Isolated	Isolated Accessions	"
Hyeonpum	2012	NICS	Iksan469//Sindongjin/Musashino7	0.00	Isolated	Isolated Accessions	"
Mipum	2010	NICS	Koshihikari//Gyehwa21/Junam	0.01	1	Periphery	"
Baegilmi	2014	NICS	Koshihikari mutant (EMS)	0.00	Isolated	Isolated Accessions	"
Boreumi	2021	NICS	HR28641-32-2-1/Iksan569	0.01	1	Periphery	"
Joil	2015	NICS	Unbong37/HR23156 (Jinbu/Unkwang)	0.02	1	Periphery	"
Jinbubyeo	1991	NICS	Hukuhikari/Hokuriku109	0.05	1	Periphery	"
Jodam	2018	NICS	Unkwang/HR25425-30-3-2-1	0.04	0	Periphery	"
JJ621MR	2020	NICS	Iksan537/HR28354-AC34-4	0.05	7	Core	"
Chamnuri	2021	NICS	Hyeonpum/HR29177-AC73-2	0.29	7	Core	"

TCS 기반 SNP 분석을 통한 유전자 다양성 및 구조적 네트워크 분석

Supplementary Table 1. Continued.

Variety	Breeding year	Breeding region	Combination	Centrality	Community	Classification	Remark
Chamjinmi	2022	NICS	Hwayeongbyeol/Hoengseongaengmi3	0.12	3	Bridge	"
Dangchanjinmi	2022	NICS	Sindongjin/HR27034-2-3-2	0.29	5	Core	"
Jeonju684	-	NICS	Jeonju623/Jeonju595	0.22	5	Core	"
Jeonju697	-	NICS	Jeonju623/Youngghojinmi	0.08	5	Core	"
Jeonju699	-	NICS	Boramchan//HR30195-AC94/Boramchan	0.24	5	Core	"
Youngjin	2016	NICS	Iksan486//YR22722-B-B-25-1/Cheongmoo	0.06	6	Periphery	"
Dongan	1996	NICS	Milyang95/HR5119-12-1-5	0.01	4	Periphery	"
Junam	2000	NICS	Hwayeongbyeol//Sangjubyel/Ilpumbyeol	0.36	5	Core	"
Onnuri	2005	NICS	Milyang165/HR14732	0.25	5	Core	"
Hwangkeumnuri	2006	NICS	Milyang165/HR14732	0.20	5	Core	"
Hwanggeumnodeul	2007	NICS	Milyang165/HR15151	0.31	5	Core	"
Seomyeong	2009	NICS	Gyehwa21/Milyang165	0.01	7	Core	"
Saebonghwang	2019	NICS	Hopum*3/Hitomebore	0.34	5	Core	"
Sodami	2011	NICS	Iksan469/Unbong31	0.04	0	Periphery	"
Boramchan	2009	NICS	HR21124/Gyehwa24	0.27	5	Core	"
Cheongho	2004	NICS	Iri407/Iri417	0.00	Isolated	Isolated Accessions	"
Anbaek	2014	NICS	Iksan493//Cheongho/Yeongdeog44	0.14	7	Core	"
Hopyung	2003	NICS	Hitomebore/Hwajinbyeol	0.01	1	Periphery	"
Chindeul	2012	NICS	HR22538-GHB-36-4/Iksan471	0.31	7	Core	"
Namchan	2018	NICS	Nikomaru/Saenuri	0.06	6	Periphery	"
Jeonju685	-	NICS	Namchan/HR28040-27-4-3-2-4-3	0.01	6	Periphery	"
Manbaek	2014	NICS	Hopum*2/SR30075-2-1-2-1-2-2-1	0.10	7	Core	"
Jinbaek	2008	NICS	HR15204//Milyang165/Iksan438	0.08	7	Core	"
Sinjinbaek	2016	NICS	Iksan493//Hopum/HR24670-9-2-1	0.04	7	Core	"
Jungwonjinmi	2024	NICS	Jeonju601/Jeonju605	0.00	Isolated	Isolated Accessions	"
Jeonju686	-	NICS	HR31434/Hwanggeumnuri	0.01	6	Periphery	"
Jeonju698	-	NICS	Seomyeong/HR27814-B-47 -1-1	0.02	7	Core	"
Jeonju700	-	NICS	Boramchan//Saenuri/Damagung	0.06	6	Periphery	"