

Table 1. Parental lines of pedigree, origin and features

S.No.	Entry	Pedigree / Genetic background	Source / Developing institute	Key features / traits (summary)
1.	PBW-822	Pedigree not publicly listed in open summaries; used in combining-ability / heterosis studies. (Preprints)	Frequently appears in IIWBR / DWR trial lists (advanced material). (iiwbr.org.in)	Reported in hybrid/heterosis studies; evaluated for yield and rust reaction in national trials. (Preprints)
2.	PBW-821	Pedigree not fully available in open sources; reported among advanced wheat material in IIWBR trials. (iiwbr.org.in)	Mentioned in ICAR/IIWBR trial reports. (iiwbr.org.in)	Noted for rust reactions in AVT; used in breeding/trials. (iiwbr.org.in)
3.	PBW-752	Pedigree reported in variety compendia: e.g., PBW621/4/PBW3... (see release notes). (iiwbr.org.in)	Developed by PAU, Ludhiana (released/recommended for NWPZ). (iiwbr.org.in)	High-yielding under late sowing; good resistance to yellow/brown rust; good chapatti quality and high hardness index. (iiwbr.org.in)
4.	UP-3043	Pedigree not clearly listed online (release/variety bulletins hold full details). (agroveda.in)	Appears in regional variety lists / commercial seed portals. (agroveda.in)	Reported tolerant to brown rust; medium height; good tillering — used as high-yielding local variety in zone summaries. (agroveda.in)
5.	WH-1270	Pedigree details are in university release dossier (not always summarized online); see CCSHAU release notes. (Testbook)	Developed by CCSHAU (Chaudhary Charan Singh Haryana Agricultural University), Hisar. (The Tribune)	High-yielding, resistant to yellow & brown rust; suits early/late sowing in NWPZ; widely adopted in Punjab/Haryana/UP. (Global Agriculture)
6.	VL-3020	Pedigree / detailed cross not widely posted in public compendia; appears in IIWBR AVT/GM lists. (iiwbr.org.in)	Listed in IIWBR/AVT material and state testing bulletins. (iiwbr.org.in)	Reported among AVT entries — evaluate rust reaction / adaptation; specific APR notes more commonly listed for sibling lines (VL-3021). (iiwbr.org.in)
7.	VL-3021	Pedigree not easily available in public summary; IIWBR reports note its adult-plant resistance (APR). (iiwbr.org.in)	IIWBR / AVT / state testing reports. (iiwbr.org.in)	Shown to possess adult-plant resistance to both yellow and brown rust pathotypes in IIWBR evaluations. (iiwbr.org.in)
8.	DBW-302	Registered / listed as a genetic stock with multiple disease resistances (public note of registration). (ResearchGate)	Registered as germplasm / genetic stock (DBW series entries in national lists). (ResearchGate)	Reported resistance to black & brown rusts; resistance to Karnal bunt and flag smut (noted as a multiple-disease resistant genotype / genetic stock). (ResearchGate)
9.	VL-3022	Pedigree / release details not in quick public summaries — appears in IIWBR/AVT lists. (iiwbr.org.in)	IIWBR / national trial entries. (iiwbr.org.in)	Evaluated in national trials; specific trait notes (e.g., disease reactions) usually appear in IIWBR AVT bulletins. (iiwbr.org.in)
10.	DBW-328	Pedigree / release note available in consolidated wheat releases table (DBW series). (wheat.org)	Developed / registered in DBW series (IIWBR/DBW entries — check release dossier for pedigree). (wheat.org)	DBW lines are generally bred for high yield, rust tolerance and farmer-preferred quality — check release bulletin for DBW-328 specifics. (wheat.org)

11.	MP-1358	Pedigree/release dossier available in state/IIWBR summaries (variety released for Peninsular regions). (Global Agriculture)	Released for Peninsular India (Madhya Pradesh / JW nomenclature indicates state program involvement). (Global Agriculture)	Noted for good yield, stability and improved nutritional (Zn/Fe/protein) profile in multi-environment studies; suitable for heat/drought / restricted irrigation. (Wiley Online Library)
12.	DBW-332	Pedigree often in IIWBR / release dossier (see IIWBR seed portal entry DBW-332 — Karan Aditya). (iiwbrseed.in)	Released by IIWBR / DBW series; IIWBR seed portal lists DBW-332 (Karan Aditya). (iiwbrseed.in)	High yielding in its target zone; documented resistance to stripe and leaf rust and other disease resistances reported in release notes (Karan Aditya). (Global Agriculture)
Tester				
1.	KRL-35	Developed from Kharchia derivatives; registered germplasm (KRL series from CSSRI — salt/alkali tolerant background). (ispgr.in)	Central Soil Salinity Research Institute (CSSRI), Karnal — used widely as salt/alkalinity tolerant genetic stock. (ispgr.in)	Salt and alkali tolerance; agronomic superiority over Kharchia parent; used widely as tolerant tester in physiology & diversity studies. (ispgr.in)
2.	KRL-99	KRL series germplasm (KRL-99 related to Kharchia derivatives); often grouped with salt-tolerant cluster in diversity studies. (Nature)	CSSRI Karnal / NBPGR registration records; used as tolerant genetic stock. (ResearchGate)	Identified as salt tolerant in SSR/phenotype analyses; used frequently as male tester for abiotic-stress combining ability. (Nature)
3.	LBRIL-102	Registered genetic stock (LBRIL series) described as spot-blotch resistant germplasm (registration number in germplasm catalogue). (ispgr.in)	Listed in germplasm registration / IIWBR germplasm catalogues (genetic stock entries). (ispgr.in)	Noted for spot-blotch resistance (valuable as tester in disease-resistance combining ability studies). (ispgr.in)