



Madhav Prasad Pandey

**Molecular assessment of genetic diversity
and population differentiation of hulless barley
(*Hordeum vulgare* L.) landraces from
the Himalayas of Nepal and its relevance
for barley breeding**



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Molecular assessment of genetic diversity and population differentiation
of hulless barley (*Hordeum vulgare* L.) landraces from the Himalayas of
Nepal and its relevance for barley breeding

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Abbreviations

AFLP	amplified fragment length polymorphism
bp	base pair
CIA	Chloroform-isoamylalcohol
cm	centimeter
Cont.	continuation
cpSSR	chloroplast-SSR
CTAB	Cetyltrimethyl-ammoniumbromid
cvs	cultivars
DArT	Diversity Arrays Technology
DI	diversity index
DMSO	Dimethylsulfoxide
DNA	Deoxyribonucleicacid
dNTP	deoxyribonucleotide
EDTA	Ethylene di-amine tetra-acetate
EST	expressed sequence tag
EtOH	Ethanol
F1	1st filial generation
F2	2nd filial generation
FAO	Food and Agriculture Organization of the United Nations
GC	German cultivars
GS	genetic similarity
H ₂ O _{dd}	double distilled water
IAM	infinite allele model
IFZ	Interdisziplinäres Forschungszentrum
IPZ	Institut für Pflanzenbau und Pflanzenzüchtung I
K ₂ HPO ₄	Potassium phosphate
LD	linkage disequilibrium
mA	milli-Ampere
MAS	marker assisted selection
MB	model based
MgCl ₂	Magnesiumchloride
min	minute

mm	milli-meter
mM	milli-mole
NaOAc	Sodium acetate
NCBI	National Center for Biotechnology Information
ng	nano-gram
NH ₄ Oac	Ammonium acetate
NL	Nepalese landrace
nm	nano-meter
PCR	polymerase-chain-reaction
pg	pico-gram
pH	Hydrogen proton
PIC	polymorphism information content
QTL	quantitative trait locus
RAPD	random amplified polymorphic DNA
rDNA	ribosomal DNA
RFLP	restriction fragment length polymorphism
RNAse	ribonuclease
rpm	revolution per minute
SAHN	Sequential Agglomerative Hierarchical and Nested
SIMQUAL	similarity for qualitative data
SMM	stepwise mutation model
SNPs	single nucleotide polymorphisms
SSR	simple sequence repeats
TBE	Tris/Borate/EDTA-buffer
TEMED	Tetremethylethylenediamide
Tris	Tris-(hydroxymethyl)-aminomethan
UPGMA	Unweighted Pair Group Method with Arithmetic mean
vs	versus
μl	micro-liter