

Hybrid Rice: Genetics, Breeding, and Seed Production

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LIST OF ABBREVIATIONS

ABA	abscisic acid
ACC	1-amino-cyclopane-1-carboxylic acid
ADH	alcohol dehydrogenase
ADV	alkali digestion value
AFLP	amplified fragment length polymorphism
A line	a cytoplasmic male sterile line
AVG	aminoethoxy vinylglycine
B line	a maintainer line in the three-line hybrid system
BT	Boro-Taichung 65 (type male sterile cytoplasm or line)
CGR	crop growth rate
CHA	chemical hybridizing agent
CMS	cytoplasmic male sterility
CSP	critical sterility point
DES	diethyl sulfate
DW	Dong-pu wild rice
EAT	effective accumulated temperature
EI	ethyleneimine
EMS	ethyl methane sulfonate
FASS	fertility alteration sensitive stage

G	Gambiaka-type male sterile cytoplasm or line
GA	gibberellic acid
GCA	general combining ability
HPGMR	Hubei Photoperiod Sensitive Genic Male Sterile Rice
HL	Hong-Lian type male sterile cytoplasm or line
IAA	indoleacetic acid
I-KI	iodine-potassium iodine
IP	Indonesia Paddy rice
IRRI	International Rice Research Institute
IRTP	international rice testing program
LW	Long-An wild rice
MH	maleic hydrazide
NARS	national agricultural research service
NEU	N-ethyl-N-nitrosourea
NMS	nuclear male sterility
PCR	polymerase chain reaction
PGMS	photoperiod sensitive genic male sterile line in the two-line hybrid system
QTL	quantitative trait loci
RFLP	restriction fragment length polymorphism
R line	restorer line
SCA	specific combining ability
s line	photoperiod or temperature sensitive male sterile line
STS	sequence tagged sites
TGMS	temperature sensitive or thermo-sensitive genic male sterile line in the two-line hybrid system
T(P)GMS	temperature sensitive or photoperiod-sensitive genic male sterile line in the two-line hybrid system
WA	wild-abortive, a male sterile cytoplasm or line
WC	wide compatibility, which can produce F_1 hybrids with normal male fertility both to most of <i>indica</i> and to most of <i>japonica</i> rice cultivars
WCG	wide compatibility gene
WCV	cultivar which has wide compatibility

I. INTRODUCTION

The commercial production of hybrid rice in China represents one of the most successful breeding efforts of the twentieth century. Heterosis breeding in rice has been reviewed by Chang et al. (1973), Davis and Rutger (1976), Virmani and Edwards (1983), Kim and Rutger (1988), and