

PROMISING MUTANT RICE FOR SOUTHERN VIETNAM



Mutant rice varieties had not been cultivated in Mekong River Delta (MRD) before 1995. Nowadays, mutant genotypes have played an important role in Southern Vietnam. In our breeding program, dry & germinated seeds of introduced varieties (IR64, etc.) and local rice varieties (Nang Huong, Tam Xoan) were exposed to ^{60}Co gamma rays at doses of 200-300Gy. Population of 10,000 – 15,000 M1 plants were established by direct seeded practice, assessed by the SES (IRRI, 1980 & 1996). The selected promising lines were tested in multi-location trials. The mutated characters developed so far consist of better resistance to lodging, disease and insect damages, higher tolerance to soil stresses such as acid sulfate soil, drought

etc, and also earliness and higher yield potential. Mutation techniques have shown very useful in rice improvement. Some best mutant varieties as VND95-19, VND95-20, VND99-3 were released and cultivated in large-scale areas. Among them, VND 95-20 has become one of the top 5 varieties for export and grown recently more than 300,000ha per year in Southern Vietnam. In combination with conventional hybridization breeding, we obtained promising recombinants with aroma, tolerance to BPH, Grassy Stunt Virus (GSV) & Ragged Stunt Virus (RSV) diseases. Selected varieties as VN 121, VN 24-4 have been evaluated to develop soon.



Brown Plant Hopper Screening at Dong Thap Muoi

VN 121 (VND 31 / VND 22-6)

VND31 genotype (female) is a mutant derived from Tam Xoan. Its quality properties (aroma, rice softness) are inherited from wild type. Its plant type and growth duration were mutated to become a desirable variety suited to intensification. VND22-26 genotype (male) is a mutant with advantages due to mutated traits as high yield, short duration, but poor quality due to high amylose content and no aroma. Consequently, its progeny VN121 (VND31/VND22-26) is inherited the desired traits from both parents on agronomical traits and grain quality. Especially, VN 121 is aromatic rice variety, tolerant to BPH, GSV and RSV diseases.



VN24-4 (IR64 / VND 95-19)

Crossing IR64 / VND95-19 aimed at creating genotypes including desired genes from both parents. Currently, VN 24-4 is highly accepted by farmers and consumers. Especially, VN 24-4 exhibited superior characters than its parents as high tolerance to BPH, tolerance to GSV, RSV, shorter duration than its parents, good grain quality (long grain, no chalkiness, and rice softness).