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Induced mutations for rust resistance in bread wheat

Seeds of variety "Lalbahadur" were treated with 0.04% NMH. M₂ plants were inoculated with a mixture of pathotypes of each of the 3 *Puccinia* species (*P. graminis*, *P. recondita*, *P. striiformis*). Plants with simultaneous resistance to all 3 rusts were selected. Repeated testing in subsequent generations confirmed the resistance. The mutant lines are morphologically similar to the parent cultivar and therefore could be used as components of a multiline variety. Comparison of variety pattern against the Indian pathotypes of rusts suggests that the mutant genes are different from the ones known already in bread wheat.

From: SAWHNEY, R.N. (Div. of Genetics, Indian Agric. Res. Inst. New Delhi 110012, India). Euphytica 36 (1987) 49-54.

Induced mutations in cucumber for resistance to nematodes (Meloidogyne spp.)

Seeds were treated with EI and selection was carried out over 5 years. In the susceptible cv. "M15" treated with 0.05% EI for 21 h 7.6% of plants were found resistant, 72% only slightly susceptible. Mutants were used in crosses and hybrids showed 57-89% resistance over 6 generations.

From: UDALOV, V.B. and PRIKHOD'KO, V.F. (Vsesoyuznyi Institut Gel'mintologii im. K.K. Skryabina, Moscow, USSR) Referativnyi Zhurnal (1987) 7.79.267, PBA 58 No. 6184 (1988).

"Fushi" - excellent mutant germplasm for peanut improvement

The mutant line "Fushi" was selected following seed treatment of the variety "Shi Xuan 64" in 1960 with ³²P. Many good peanut varieties were developed using "Fushi" in cross-breeding (ref. Mutation Breeding Newsletter No. 30 (July 1987) p.2-3). In the past 10 years, planting areas of these varieties added up to 3,3 million ha in South China, peanut production was increased by more than 500 000 t valued 500 million Yuan.

From: JIANG, X. and ZHOU, Y. (Guangdong Academy of Agric. Sciences, Guangzhou). Acta Agric. Nucleata Sinica 2 (1988) 147-153.

Smut resistance in sugar cane

From a mutation breeding programme with the popular early maturing sugar cane variety CoC 671 fourteen clones could be selected which were found to be free of smut infection after three successive years of artificial testing. Smut resistance was also found after in-vitro culture propagation of susceptible cultivars G80-454 and CoC 671.

From: Research Highlights 1987, Sugar Cane Breeding, Institute Coimbatore 641007, India.