Recombination may give a high-yielding low erucic acid and low glucosinolate variety of B. juncea.

(R.N. Oram, Division of Plant Industry, CSIRO, Canberra, 2601 Australia)

Mutation breeding research of wheat (T. aestivum) in China

78 cultivars and various valuable strains have been obtained through induced genic mutation and chromosome translocation. Irradiation of hybrid seeds, gametes, zygotes and in vitro cultured cells, gave increased mutation frequency and expanded spectrum. Various physical agents were examined either singly or in combination with chemical agents. Combined use of γ-irradiation by low dose and in vitro culture proved effective in raising the percentage of seed-set in wide-crosses.

(L. Wang, B. Zhang, J. Shi, S. Tao, Q. Fan, Department of Mutation Breeding and Genetics of Plants, Institute for Application of Atomic Energy, CAAS, Beijing, China)

Induced resistance to septorial leaf blotch disease in wheat cv. "SaberBeg" and its hybrids by fast neutrons

Seeds of "SaberBeg" and its hybrids in F_2 generation were irradiated with different doses of fast neutrons. 1324 variants selected from M_2 and F_4M_2 were evaluated for resistance to septorial leaf blotch (Septoria tritici Rob ex Desm) with artificial inoculation under field conditions, through 3 successive generations. Results revealed 55 variants moderately resistant, along with better agronomic traits such as stiff stem, earliness in maturity and good adaption to semiarid zone conditions. The highest number of such variants was obtained from irradiated "SaberBeg" x "Mexipak" and "SaberBeg" x ("Mexipak" x "AbuGhraib 4"), while the lowest number was found from "SaberBeg" x "Araz".

(I. Ibrahim, E. Al-Marooff, A. Al-Janabi, A. Mahmood, Al-Aubaidi, Faculty of Agriculture and Biology, P.O. Box 765, Baghdad, Iraq)

Selection of salt-tolerant variant of wheat in vitro

Growing-tip explants of four winter wheat varieties were cultured on basal medium supplemented with 2,4-D 2mg/l and various NaCl concentrations. The calli derived from "Nongda 139" growing-tips were subcultured on the medium salinized with 0.4% NaCl for one year. Then they were cultured on a medium serially salinised with NaCl, increasing by 0.4% steps until 2%. Finally, surviving calli were transferred to a medium containing 0.4% NaCl for regeneration. 21 plants were obtained among which 3 were sterile. Dwarf, late ripening, shrunken grains and spike shape variations were observed, but they were non-heritable except dwarf and spike shape. Some potential NaCl-tolerant variants were identified.

(Q. Zheng, Y. Zhu, W. Chen, X. Tang, Institute for Application of Atomic Energy, CAAS, Beijing, China)

Isozyme differences in barley mutants

Thirty mutants (M_{11}) of barley (Hordeum vulgare L.) induced by physical and chemical mutagens were analysed for isozyme composition using polyacrylamide gel electrophoresis. Results show that these mutants were different in the isozymes leucine aminopeptidase, esterase and peroxidase. The differences included the number of forms of each enzyme,