EFFECT OF SOME MUTAGENIC AGENTS ON TRITICALE IMPROVEMENT

BY

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B. Sc. Agric., (Agronomy), Ain Shams Univ., 1994.

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ABSTRACT

Naglaa Kamel. Effect of some mutagenic agents on triticale improvement. Unpublished Master of science thesis, Agronomy Department, Fac. of Agric., Ain Shams University, 2001.

The present investigation was carried out at the Experimental Farms of Faculty of Agriculture, Ain Shams Univ. at both Shoubra El- Kheima in the first season (1995/1996) and Shalakan, Kalubia Governorate in the second and third growing seasons (1996 / 97 and 1997 / 98) to study the effect of treatments with gamma rays and ethyleneimine [EI] on the performance of two triticale lines in the first mutagenic generation as well as to study genetic variability and mutation process in the second and the third mutagenic generations.

Five treatments of gamma rays (0.0, 10, 20, 30 and 40 kr) and six treatments of EI (0.0, 0.08, 0.10, 0.15, 0.20 and 0.25%) were used. Results of the M_1 generation showed that significant differences between the two studied lines in respect to plant height and spike length. Significant and wide difference was noticed between the control and the mutagenic treatments in which the low doses of γ -rays seemed to have a stimulating effect on plant height at 10 kr and number of grains per spike at 10 and 20 kr while the higher doses of 30 and 40 kr caused significant reduction for number of grains per spike. The first four concentrations of EI, viz. 0.08, 0.10,