restoration of fertility in double cross hybrids on sterile basis with two sterile lines may be predicted with a relative accuracy.

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6. An attempt for induction of mutation of normal cytoplasm into sterile cytoplasm by treatment with streptomycin.

According to Sager (Scient. Amer. 1965, 212, 1), Petrov et al. (Refer. jurnal, Rasteniev. 1969, 10, 55, 10), Yehuda and Dlana (Planta 1970, 91, 195) streptomycin appears to be a specific mutagen for cytoplasmic factors. The mutation of normal cytoplasm into a sterile one is of importance to the creation of new sources of sterile cytoplasm and for shortening of the period of development of sterile analogues.

We repeated the experiment of Petrov. 100 germinating seeds were taken from each line containing the genotypes Wf9-N$\underline{rf_1rf_1}\,\underline{rf_2rf_2}\,\underline{rf_3rf_3}$, VIR-75-N$\underline{rf_1rf_1}\,\underline{rf_2rf_2}\,\underline{Rf_3Rf_3}$, A-344-N$\underline{Rf_1Rf_1}\,\underline{Rf_2Rf_2}\,\underline{rf_3rf_3}$ and 0570a-N$\underline{Rf_1Rf_1}\,\underline{Rf_2Rf_2}\,\underline{Rf_3Rf_3}$. The following concentrations of streptomycin in distilled water were used: 0.001 γ/ml, 0.01 γ/ml, 1 γ/ml, 10 γ/ml., 100 γ/ml, 1 mg/ml and 10 mg/ml. The germinating seeds were soaked in this solution for 24 hours at temperature 22-24° C. Dry and soaked seeds served as controls in each experiment. Two progenies were observed after the treatment.

Male sterility was not found in any of the variants.

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1. Physiological investigations of the stature mutant nana-1.

Coleoptile elongation, seedling elongation, isoenzymes of peroxidase and peroxidase activity, respiration of coleoptiles and mesocotyls, protein synthesis, and changes in ribonucleic acid in seeds and seedlings of the stature mutant nana-1 were investigated.

Seedlings were treated with indoleacetic acid in various concentrations. Measurement showed a significant increase in growth by the treated