

average diameter of these inclusions is 6500 Å. In addition, it was noted that the cells of the male sterile root tips contain fewer chloroplasts than those of the maintainer. Studies of the inclusions and of the decreased number of chloroplasts will be continued using various lines of T-type cytoplasmic male sterile maize.

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4. Effect of streptomycin on chlorophyll content in maize seedlings.

Currently an attempt is being made to induce cytoplasmic sterility in maize. Seeds (C103N) were immersed in 25 ml of streptomycin solution (Petrov, Fokina, and Zheleznova, U.S. Pat. #3,594,152) at 24°C. using the following doses: .0005, .001, .005, .01, .05, .1, .5, 1, 5, 10, 50, 100, 500, 750, 1000, 2500, 5000, and 10,000 micrograms/milliliter. At the same time, control seeds were soaked in distilled water.

The seeds were then placed in pots and allowed to germinate. Marked variations were noted when comparing the treated seedlings with the controls. Some seedlings that had been treated with 50 ug/ml (.005%) were albino and those which had been treated with higher doses either had completely white leaves or showed a variegated pattern of green stripes on white leaves. This demonstrates an effect of streptomycin on the chlorophyll content at lower doses than was expected.

Differences in the growth of the plants were also noted with an enhancement of growth occurring with doses between .1 and 1 ug/ml and with a retardation of growth occurring in seedlings treated with higher doses.

Although the albino plants are not expected to survive, all available plants will be checked later for pollen production. It is hoped that streptomycin will have had a more subtle effect at the lower doses and that this effect will result in cytoplasmic sterility.

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