

3. Effect of Carbon/Nitrogen Ratice on the Expression of Cytoplasmic male sterility.

An experiment was set up in order to ascertain whether varying carbon/nitrogen ratios in the corn plant, induced by controlling factors of the soil environment, would affect the expression of cytoplasmic male sterility.

The F_1 of a cross of the Texas male sterile single cross 203MS x 61M with the local mass selected open pollinated variety Amarillo LM, was used as experimental material. Replicated field plots on which four nitrogen and three irrigation levels were applied, served to yield data on percentage of plants shedding pollen per plot, and also on percentage of tassel ramification, shedding pollen per plant. It was assumed that the frequency of fertility restoring genes contributed by the variety to the F_1 under test would be evenly distributed among the different plots, so that any environmental influence on fertility restoration would be detected by any significant deviation from the mean of pollen shedding plants per plot.

Even though a complete statistical analysis on the data is not available as yet, first examinations indicate a larger frequency of pollen shedding plants in the high carbon/nitrogen ratio plots.

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