

CASTELAR, ARGENTINA
INTA

Effect of ethyl methane sulfonate (EMS) on ear weight in maize

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The use of induced mutants is an important tool in plant breeding. The effect of EMS on individual ear weight was analysed after seven generations of open pollination.

Two hundred seeds of an inbred flint line were treated with EMS at two concentrations (0.5% and 0.75%) for 13 hours. After seven generations of open pollination, 300 ears were measured for each treatment and the same line without treatment as a check. The mean weight of ears was higher for the descendants of the EMS-treated material: 99.80 grams for 0.5%, 95.76 grams for 0.75% and 75.53 grams for the check (Figure 1). Also, the ear weight range was higher for the treatment: 40 to 200 grams for 0.5%; 30 to 180 grams for 0.75% and 30 to 130 grams for the check (Figure 2). The populations derived from these EMS treatments should be a useful source for inbred line selection with respect to ear weight.

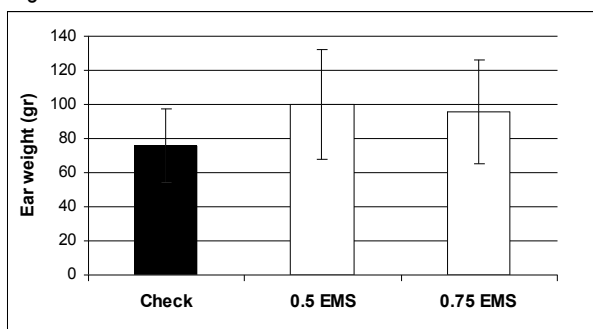


Figure 1. Mean ear weight (grams/ear).

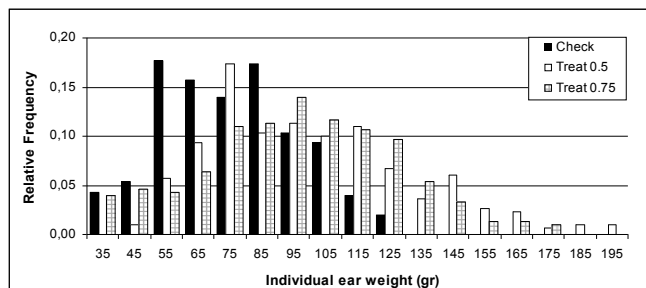


Figure 2. Distribution of ear weight (grams/ear).