

Research notes

GAMMA RAY INDUCED ECONOMIC MUTATIONS IN GROUNDNUT

Groundnut variety EC 119704 was subjected to gamma irradiation at dose rates of 10, 20, 30, 40 and 50 krad at the Tamil Nadu Agricultural University, Coimbatore. The effects of mutagen in the M_1 and M_2 generations were studied. This paper reports the economic mutants isolated in the M_2 generations. The M_2 plants were harvested on the 90th day to isolate early mutants. Plants with less than 30 per cent immature pods and 10 or more mature pods, were selected as economic mutants.

The characteristics of the economic mutants isolated are presented in Table 1. A few of these mutants flowered one to two days earlier than the control. However, no relationship was observed between days to flowering and days to maturity. Pod yield per plant was about three times that of the control in some of the mutants. This is in agreement with the report of Ramanathan (1984) that number of mature pods contributed to higher yield in the mutants. The mean kernel weight was less than that of control in most of the selected mutants. All the selected mutants had seed dormancy indicating that gamma irradiation at doses of 10 to 50 krad did not affect seed dormancy.

The results indicate that groundnut is highly suitable for genetic improvement through induced mutagenesis as suggested by Gregory (1956) and Norden (1973). The suggestion of Misra (1980) that induced mutagenesis is a tool for breeding for earliness in groundnut has proved to be a reality since early mutants with more number of mature pods could be isolated in this study.

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