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## 春大豆EMS诱变M<sub>1</sub>、M<sub>2</sub>代主要农艺性状的遗传变异及相关性

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摘要: 利用0.5%甲基磺酸乙酯(EMS)溶液处理7个春大豆品种种子, 并对M<sub>1</sub>和M<sub>2</sub>代主要农艺性状的遗传变异及相关性进行分析。结果表明: M<sub>1</sub>代主要是化学物质扰乱了植株生理而产生生理损伤发生了形态变异。M<sub>2</sub>代分枝数、单株荚数、单株粒数和单株粒重的变异系数较大。M<sub>2</sub>代各性状的广义遗传力以株高、主茎节数较高, 而分枝数、单株粒数、单株粒重、单株荚数中等, 百粒重的遗传力偏低。EMS在提早熟期方面对早熟品种的影响要大于中晚熟品种, 在延迟熟期方面没有明显差异。原品种中节数和株高分别与单株粒数、单株荚数、单株产量之间的相关达到了极显著水平, 而在M<sub>2</sub>中, 没有达到显著水平。

Abstract: Seven spring soybean varieties were treated by 0.5% EMS (ethylmethane sulphonate) solution, and analyzed genetic variations and correlation of the main agronomic characters in M<sub>1</sub> and M<sub>2</sub> generation. Morphological variation of M<sub>1</sub> was mainly induced by mutagens which made the plant physiological process into disorder. Among the characters of M<sub>2</sub>, the genetic variation coefficient of branches, pods per plant, seeds per plant and seed weight per plant were more evident. For the broad sense heritability plant height, main stem nodes were the highest; branches, pods per plant, seed weight per plant and pods per plant were medium and 100-seed weight was the lowest. EMS could advance or delay soybean growth duration, in the early growth duration, the early mature varieties were evident than late mature ones, while no significant difference were observed for delaying maturation between early and late mature soybeans. Among the primary varieties, significant correlation between plant height, main stem nodes and seeds per plant, pods per plant, seed weight per plant were observed, while this trend not found in M<sub>2</sub> generation.

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