

**SELECTION OF HIGHER YIELDING YELLOW SEEDED POPULATIONS
OF *Brassica rapa* FROM BACKCROSS- 2F₄ (BC₂F₄) POPULATIONS FOR
TWO OR THREE-CROPPED CROPPING PATTERNS**

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Executive Summary

An experiment was carried out with 46 populations (38 F₄ and 8 BC₂F₄ population) of *Brassica rapa* L. at the experimental field of Sher-e-Bangla Agricultural University, Dhaka during November 2022 to February 2023 considering eleven yield contributing characters. To study 46 populations, the magnitude of variations in the characters, correlation, heritability, genetic advance, direct and indirect effect of different characters on seed yield per plant were taken under analysis. Analysis of variance revealed significant variations among all populations for all the traits. Minimum difference between phenotypic and genotypic variance was observed in days to first flowering, days to 80% maturity, number of primary branches per plant, length of siliquae and thousand seed weight indicating the less environmental effect to control these characters. However, high genotypic and phenotypic coefficient of variation was observed for the characters number of secondary branches per plant, number of siliquae per plant, number of seeds per siliquae and seed flowering, days to 50% flowering, days to 80% maturity, plant height, number of secondary branches per plant, number of siliquae per plant, number of seeds per siliqua, length of siliquae and thousand seed weight whereas high heritability with high genetic advance was observed in number of siliquae per plant. Correlation study revealed that seed yield per plant had a significant positive correlation with days to maturity, plant height, number of primary branches per plant, number of secondary branches per plant, number of siliquae per plant and length of siliquae at the genotypic and phenotypic level. Direct positive effect on seed yield per plant was found in days to 50% flowering, days to 80% maturity, number of primary branches per plant, number of secondary branches per plant, number of siliquae per plant, length of siliquae and number of seeds per siliquae through path coefficient analysis. Among 46 populations, 10 populations containing 7 F₄ populations such as G4, G16, G26, G27, G28, G37 and G38 and 3 BC₂F₄ populations such as G40, G45 and G46 were selected based on the variability, short duration and high yield.

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