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## Morphological characterization of interplod F6 populations of *Brassica*

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Six parental lines and their 42 F<sub>6</sub> populations were evaluated at the University of Agriculture Peshawar during the cropping season 2015-16. Among F<sub>6</sub> populations, maximum primary branches (5.4) were recorded for Bnr9F<sub>6</sub>. Populations Bnr25F<sub>6</sub> and Bnr38F<sub>6</sub> were early in flowering (78.7 days) maturity (171.4 days), respectively. Tallest plants (144.1cm) and longest pods (9.27 cm) were produced by population Bnr40F<sub>6</sub>. Longest main raceme (88.7 cm) was recorded for population Bnr3F<sub>6</sub>, while maximum pods on main raceme (46.7) were recorded for populations Bnr42F<sub>6</sub>. Maximum seeds pod<sup>-1</sup> (21.14) and maximum protein contents (24.2 %) were recorded for population Bnr41F<sub>6</sub>. Population Bnr14F<sub>6</sub> gave maximum 100-seed weight (0.93 g plant<sup>-1</sup>), while population Bnr41F<sub>6</sub> gave high yield plant<sup>-1</sup> (30.92 g plant<sup>-1</sup>). Population Bnr33F<sub>6</sub> had maximum oil (54.8%) while low glucosinolate (80.55µmol/g) was recorded for population Bnr36F<sub>6</sub>. High oleic acid (50.52 %) was recorded for population Bnr13F<sub>6</sub>, while low erucic acid (49.2%) was recorded for population Bnr30F<sub>6</sub>. Among F<sub>5:6</sub> populations, moderate to high heritability was recorded for all morphological and biochemical traits with high genetic advance. Cluster analysis classified the 42 F<sub>5:6</sub> populations along their 6 parental lines into two main groups. Group I consist of 26 populations described for tallest plants (134.66 cm), maximum primary branches (3.94), seeds pod<sup>-1</sup> (18.31), high protein (20.27%), high oleic acid (57.02%), longest main raceme (77.55 cm), longest pods (7.82 cm), high yield (19.64 g) and maximum seed weight (0.64 g). Group II consist of 22 populations are categorized for early maturity (171.80 days), minimum glucosinolate (82.96 umol/g), minimum linoleic acid (7.65%) and maximum 100-seed weight (0.83 g). The clustering pattern disclosed that every group had potential attributes for different characters and could be used in future breeding programs for desirable traits. Populations Bnr41F<sub>6</sub> is recommended for use in further breeding programs as it had maximum protein, yield plant<sup>-1</sup>, protein contents and seeds pod<sup>-1</sup>.

### Biography

Farhatullah is working as Meritorious Professor in the University of Agriculture Peshawar Pakistan. His research is mainly focused on indigenous crops of Khyber Pakhtunkhwa province of Pakistan. He has developed several *Brassica* lines through interspecific hybridization. He is now working on to find cytological and molecular evidence of inheritance of special characters like double pods and male sterility in advanced generations of brassica interspecific hybrids.

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