

## Evaluation of Buckwheat Genotypes to Different Planting Geometries and Fertility Levels in Northern Transition Zone of Karnataka

**Authors :** U. K. Hulihalli, Shantveerayya

**Abstract :** Buckwheat (*Fagopyrum esculentum* Moench) is an annual crop belongs to family Polygonaceae. The cultivated buckwheat species are notable for their exceptional nutritive values. It is an important source of carbohydrates, fibre, macro, and microelements such as K, Ca, Mg, Na and Mn, Zn, Se, and Cu. It also contains rutin, flavonoids, riboflavin, pyridoxine and many amino acids which have beneficial effects on human health, including lowering both blood lipid and sugar levels. Rutin, quercetin and some other polyphenols are potent carcinogens against colon and other cancers. Buckwheat has significant nutritive value and plenty of uses. Cultivation of buckwheat in Sothern part of India is very meager. Hence, a study was planned with an objective to know the performance of buckwheat genotypes to different planting geometries and fertility levels. The field experiment was conducted at Main Agriculture Research Station, University of Agriculture Sciences, Dharwad, India, during 2017 Kharif. The experiment was laid-out in split-plot design with three replications having three planting geometries as main plots, two genotypes as sub plots and three fertility levels as sub-sub plot treatments. The soil of the experimental site was vertisol. The standard procedures are followed to record the observations. The planting geometry of 30\*10 cm was recorded significantly higher seed yield (893 kg/ha<sup>1</sup>), stover yield (1507 kg ha<sup>1</sup>), clusters plant<sup>1</sup>; (7.4), seeds clusters<sup>1</sup>; (7.9) and 1000 seed weight (26.1 g) as compared to 40\*10 cm and 20\*10 cm planting geometries. Between the genotypes, significantly higher seed yield (943 kg ha<sup>1</sup>) and harvest index (45.1) was observed with genotype IC-79147 as compared to PRB-1 genotype (687 kg ha<sup>1</sup> and 34.2, respectively). However, the genotype PRB-1 recorded significantly higher stover yield (1344 kg ha<sup>1</sup>) as compared to genotype IC-79147 (1173 kg ha<sup>1</sup>). The genotype IC-79147 was recorded significantly higher clusters plant<sup>1</sup>; (7.1), seeds clusters<sup>1</sup>; (7.9) and 1000 seed weight (24.5 g) as compared PRB-1 (5.4, 5.8 and 22.3 g, respectively). Among the fertility levels tried, the fertility level of 60:30 NP kg ha<sup>1</sup>; recorded significantly higher seed yield (845 kg ha<sup>-1</sup>) and stover yield (1359 kg ha<sup>1</sup>) as compared to 40:20 NP kg ha<sup>-1</sup> (808 and 1259 kg ha<sup>1</sup>; respectively) and 20:10 NP kg ha<sup>-1</sup> (793 and 1144 kg ha<sup>1</sup>; respectively). Within the treatment combinations, IC 79147 genotype having 30\*10 cm planting geometry with 60:30 NP kg ha<sup>1</sup>; recorded significantly higher seed yield (1070 kg ha<sup>1</sup>), clusters plant<sup>1</sup>; (10.3), seeds clusters<sup>1</sup>; (9.9) and 1000 seed weight (27.3 g) compared to other treatment combinations.

**Keywords :** buckwheat, planting geometry, genotypes, fertility levels

**Conference Title :** ICAB 2018 : International Conference on Agriculture and Biotechnology

**Conference Location :** Melbourne, Australia

**Conference Dates :** February 01-02, 2018