



Comparative Study of Growth and Yield Characteristics of Barley Genotypes in Field Conditions

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Abstract

Background: Barley (*Hordeum vulgare*) is the oldest cultivated cereal crops and has played a major role in human agriculture for thousands of years. Improving its productivity require identifying genotypes with superior growth, yield, and yield attributing traits.

Methods: This experiment was conducted to evaluate the performance of different rice genotypes based on growth, yield, and yield-attributing traits under replicated conditions. 20 barley genotypes was used in experiment with two replications. Data were recorded on plant height at 52, 70, 82, and 104 days DAS, number of tillers, straw yield, grain yield, moisture content, and harvest index.

Results: Considerable variation was observed among genotypes for all measured traits. Plant height at 104 DAS ranged from 56.72 cm (NDV-2) to 92.48 cm (Xvcola-15), indicating differences in growth vigor. The highest number of tillers was recorded in NGRC 5997 (up to 219), followed by NGRC 6013 (up to 208). Grain yield ranged from 0.24 to 0.90 kg per plot, with Khadak Local producing the highest yield (0.72–0.90 kg), followed by NDB-1 (0.69–0.72 kg). Straw yield was highest in NDB-1 (up to 1.73 kg) and Khadak Local (up to 1.68 kg). The maximum 1000-seed weight was recorded in NDV-2 (about 44 g), indicating bold grains. Harvest index ranged from 18.54% to 34.88%, with Khadak Local and NGRC 7582 showing relatively higher efficiency.

Conclusion: Khadak Local, NDB-1 perform better in terms of grain yield, while NGRC 5997 and NGRC 6013 excelled in tillering capacity. These genotypes can be considered promising for further evaluation and potential use in rice improvement programs.

Key Words: barley, genotype, growth, yield

