

G×E interaction analysis for forage yield of dual purpose barley genotypes by AMMI biplots

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ABSTRACT : Highly significant effects of environments, genotypes and interactions of forage yield observed for barley genotypes. The environmental effects explained the major portion of the total variance during both years as of 82.3% and 80.5%, respectively. The highly significant interaction effects partitioned into IPCA1, IPCA2, IPCA3, IPCA4; which explained 30.4, 19.4, 14.8, 13.2% for 2012-13 and 35.9, 22.8, 12.9, 9% for the year 2013-14. ASV (AMMI stability value) identified promising genotypes as G12(UPB 1035), G6(UPB 1034), G7(BH 971) and G3(HUB 238), G17(RD 2035), G14(KB 1347) for respective years. AMMI distance (D) marked G3(RD 2035), G9(BH 970), G13(RD 2857) for former while genotypes G9(KB 1369), G17(RD 2035), G15(RD 2879) for later year. YSI score advocated G13(RD 2857), G11(NDB 1570), G3(RD 2035), G5(RD 2715) and G3(HUB 238), G9(KB 1369), G12(RD 2881) desirable genotypes for selection. Genotypes with IPCA1 scores close to zero identified G4(UPB 1036), G7(BH 971), G16(NDB 1566) and G11(RD 2880), G2(NDB 1585) for respective years; would have wider adaptation to the tested environments as per AMMI graphical plots.

Key Words : Barley (*Hordeum vulgare* L.), environments, genotypes, interactions of forage yield, AMMI stability value (ASV), AMMI distance (D), yield stability index (YSI), AMMI biplots.