Supplementary Material Table S1: Description of test locations used for the study.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Location | Altitude (masl\*) | Latitude | Longitude | Annual RF(mm) | M min T (oC) | M max T (oC) | Soil Type |
| Debre Tabor | 2630 | 11089'N | 38009'E | 1500.0 | 11.8 | 23.0 | Luvisol |
| Injibara | 2560 | 10057'N | 36056'E | 2300.0 | 8.0 | 22.0 | Acrisol |
| Merawi | 1960 | 11042'N | 37017'E | 1576.6 | 7.8 | 25.8 | Nitosol |
| Finote Selam | 1917 | 10042'N | 37016'E | 1343.6 | 12.9 | 29.4 | Nitosol |
| Dibate | 1615 | 10077'N | 37026'E | 1000.0 | 15.0 | 29.0 | Nitosol |
| Mandura | 1400 | 10095'N | 37043'E | 1300.0 | 15.0 | 35.0 | Nitosol |

\*= Meters above sea level; RF (mm) = Rainfall in millimeter; M min T and M max T= Mean minimum and mean maximum temperature in degree Celsius, respectively

Supplementary Material Table S2: Instability values, distance to ideal genotype and ranks of 12 white lupin landraces based on GGE analysis.

|  |  |  |  |
| --- | --- | --- | --- |
| Landrace | Instability | Rank on closeness to Ideal  | Distance To Ideal |
| G2 | 0.10 | 1 | 0.80 |
| G10 | 0.30 | 2 | 1.80 |
| G5 | -0.10 | 3 | 1.80 |
| G8 | 0.10 | 4 | 2.00 |
| G3 | 0.00 | 5 | 2.10 |
| G12 | -0.50 | 6 | 2.40 |
| G7 | 0.30 | 7 | 2.50 |
| G6 | -0.50 | 8 | 2.50 |
| G1 | -0.20 | 9 | 2.60 |
| G11 | -0.20 | 10 | 2.80 |
| G9 | 0.50 | 11 | 3.00 |
| G4 | 0.20 | 12 | 3.20 |

G1-G12 are codes representing white lupin landrace accessions.