

Wheat International Trial Data



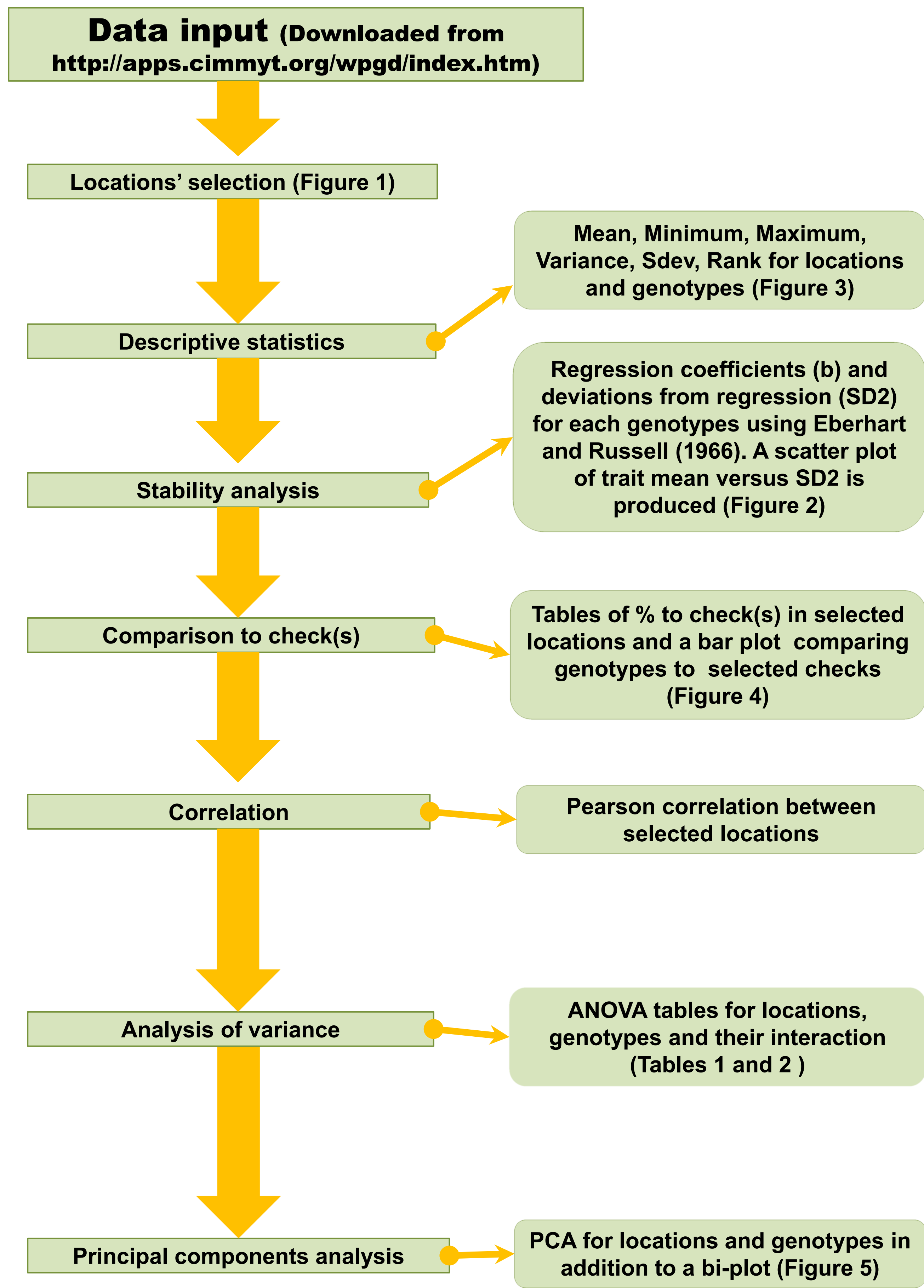
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BACKGROUND

Every year the CIMMYT global wheat program sends promising lines coming out of the breeding pipelines to a large number of partners globally. Many institutions evaluate these materials and data are returned on grain yield, phenology and pest and disease scores. This data set is analyzed and made available in Excel files at the International Wheat Information System (IWIS) of CIMMYT website: <http://apps.cimmyt.org/wpgd/index.htm>.

Microsoft Excel, commonly used worldwide, has been customized with an add-in tool that allows collaborators to customize their own analysis of international wheat nursery trials. The IWIN data analysis program includes many of the statistical comparative routines used by wheat breeders to analyze multi-location trials such as ANOVA, stability, PCA and comparison to checks.

IWIN-DAP PROCEDURES



CONCLUSION

- This poster describes an IWIN data analysis program which is an add-in to Microsoft Excel.
- IWIN-DAP is an illustration of an alternative approach allowing easy use of Excel to analyze multi-location trials from CIMMYT international nurseries.
- IWIN-DAP is ready to use after the user downloads it as an Excel add-in. It is easy to use since there is no extra work for users before running the analysis.

IWIN-DAP's OUTPUTS

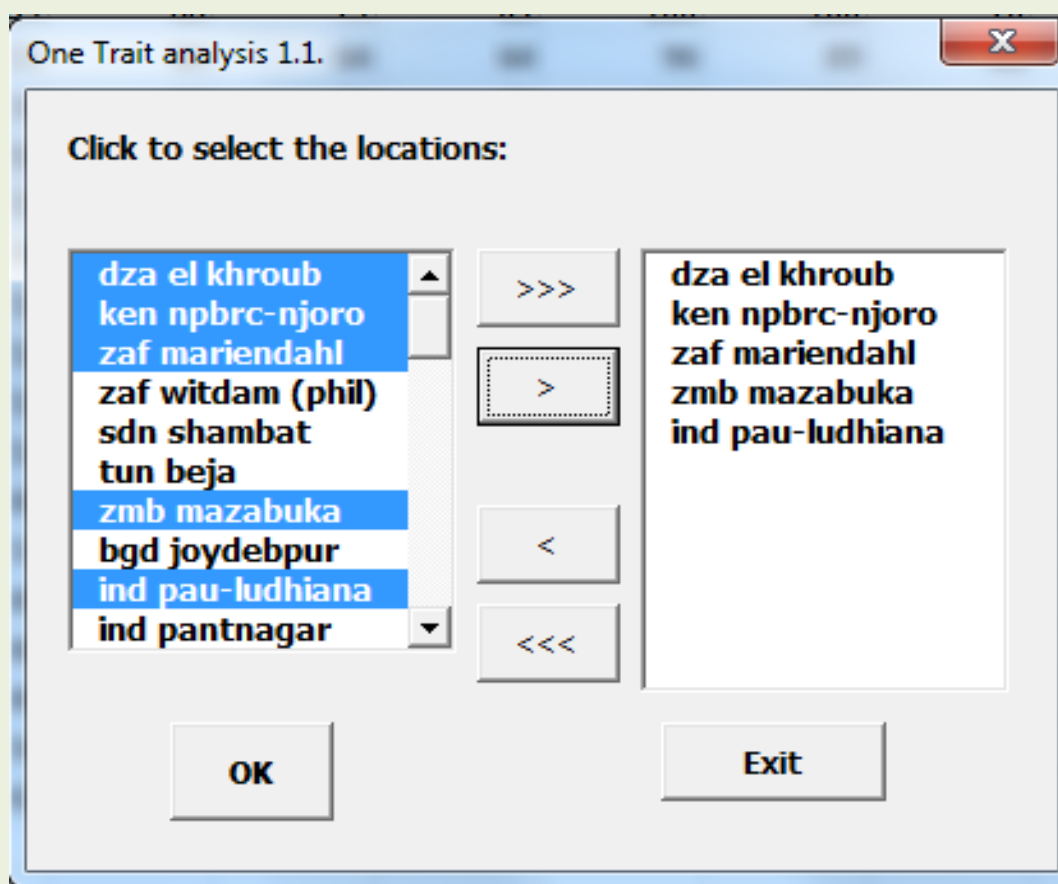


Figure1: The form for one-trait analysis in IWIN-DAP

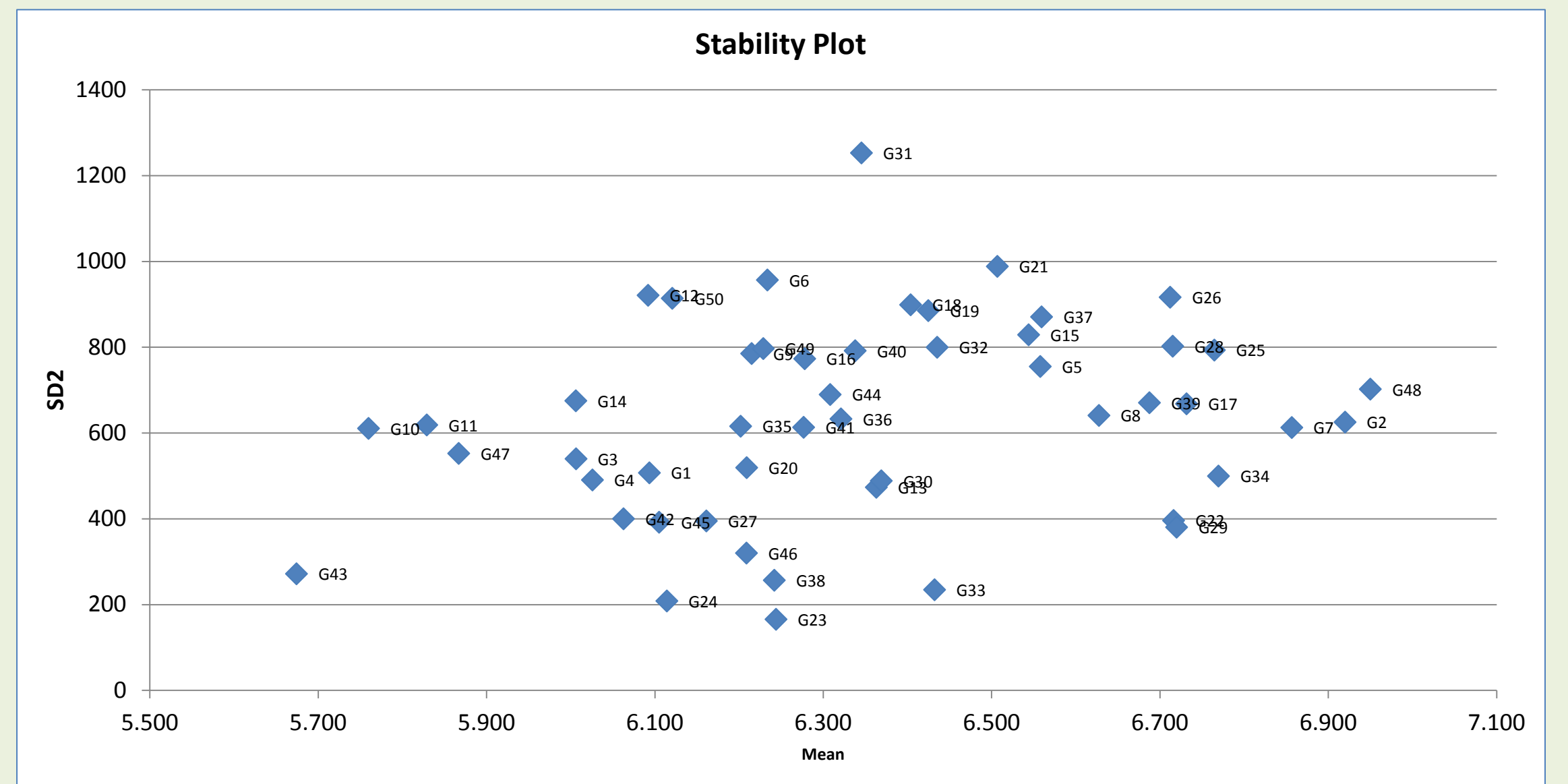


Figure2: Plot of mean trait versus stability SD2

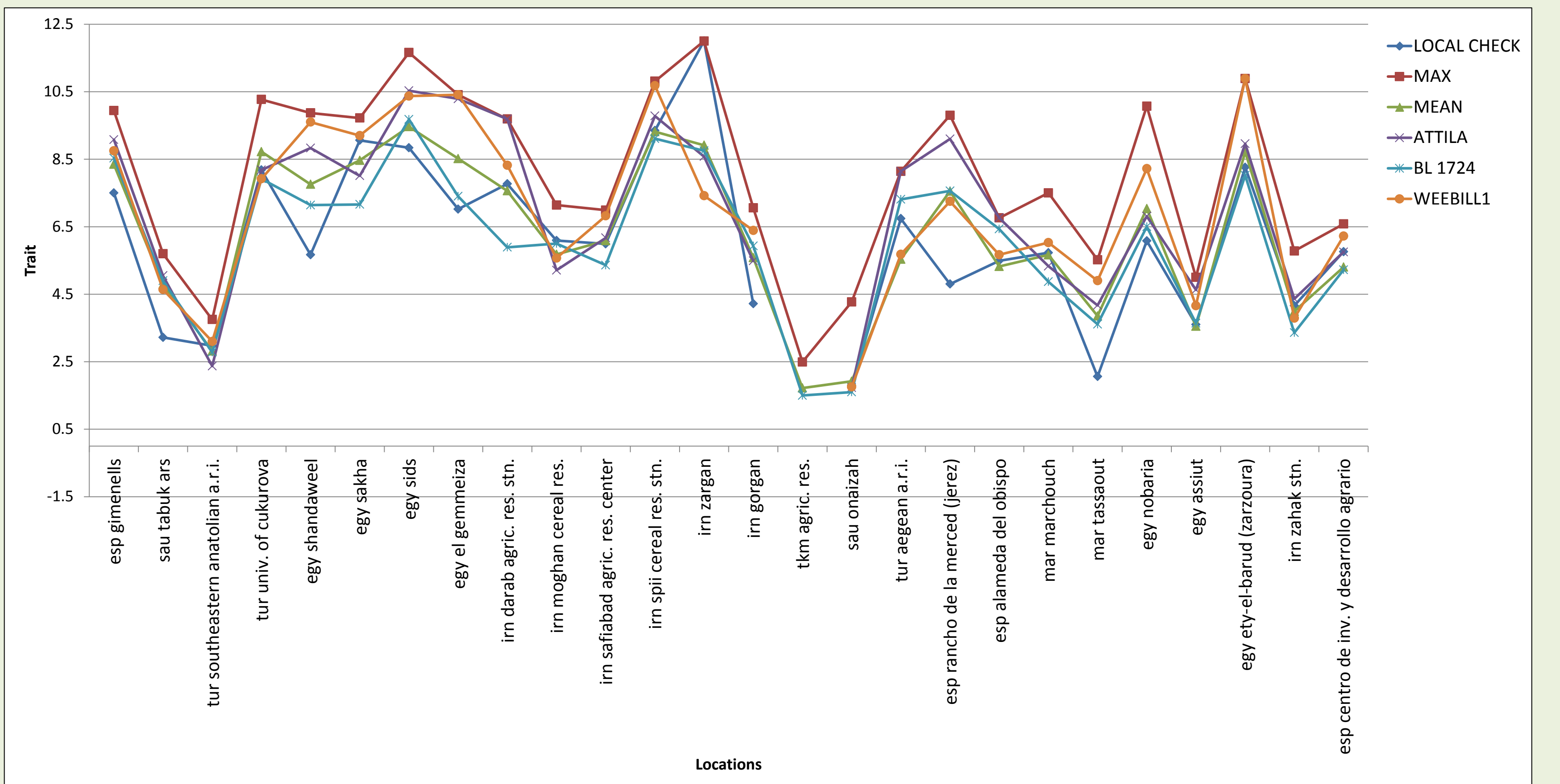


Figure3: Plot comparing maximum and average at each location versus checks and elite genotype

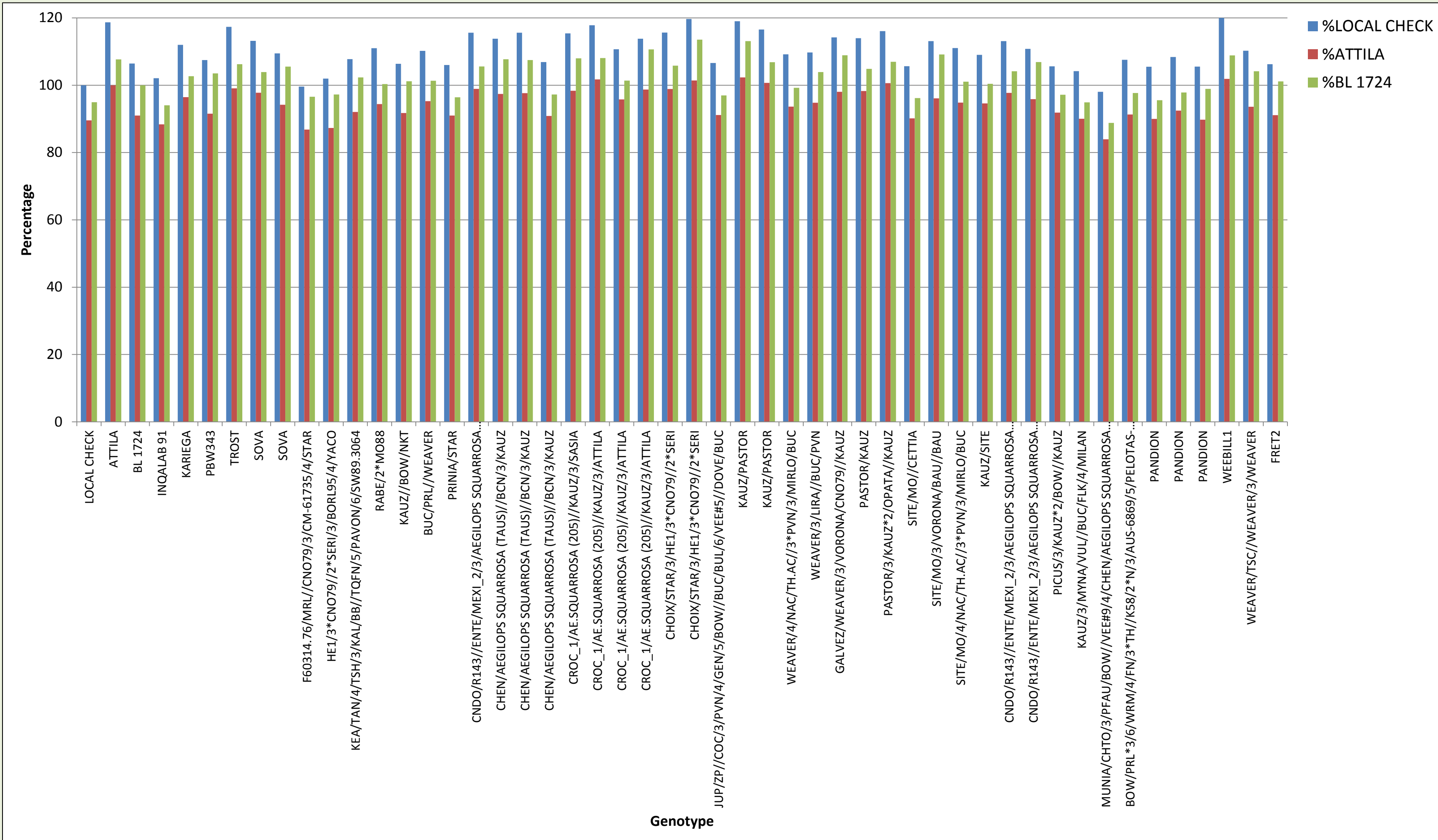


Figure 4: Bar plot of average percentages to selected checks

Table 1: One factor ANOVA table

Source of Variation	SS	df	MS	F	P-value	LSD(5%)
Between Locations	6743.42	25	269.737	375.189	0.000	0.333
Within Locations	915.92	1274	0.719			
Total	8136.74	1299				

Table 2: Two factor ANOVA table

Source of Variation	SS	df	MS	F	P-value
Genotypes (G)	102.81	49	2.10	3.38	0.00
Locations (L)	7245.48	25	289.82	467.21	0.00
G * L	759.89	1,225	0.62		
Total	8108.19	1,299			

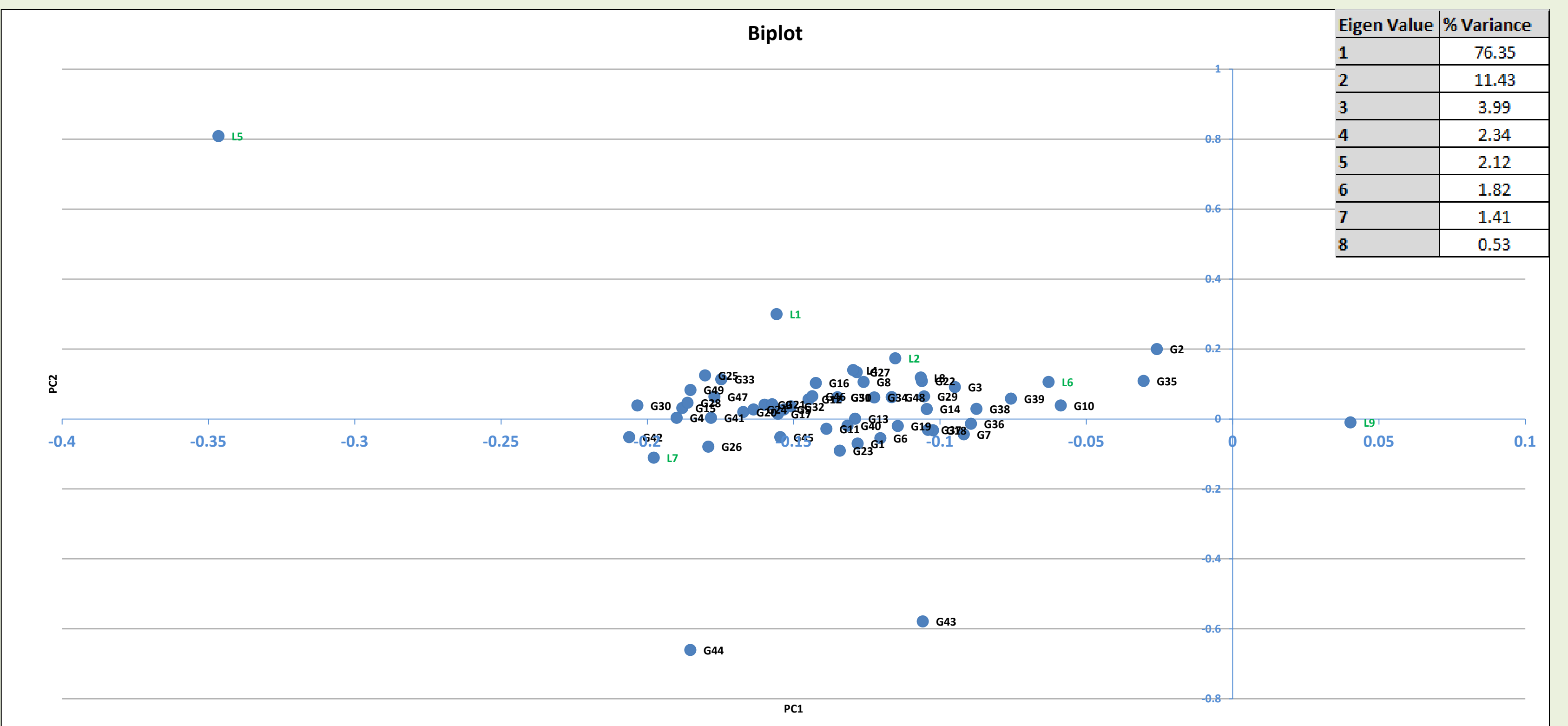


Figure 5: Table of variance explained by Eigen values and Biplot