RESEARCH ARTICLE

CORRELATION AND PATH ANALYSIS IN POTATO UNDER TEMPERATE CONDITIONS

Muzamil A. Hajam*[1], Tariq A. Bhat, Asif. M. Rather[-1], S. H. Khan[1], M. Ahmad Ganie[1] and M. Shafi[3]

[1]Division of Vegetable Science, [2]Division of fruit Science, Faculty of Horticulture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, 190001
[3]Division of GPB, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, 190001
Division of Vegetable Science, SKUAST-K, Shalimar Campus, Srinagar, Jammu and Kashmir

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Abstract: Understanding interrelationships among various agronomic traits is vital to plan an effective breeding program in potato (*Solanum Tuberosum* L.). This study was undertaken in SKUAST-K to determine associations among yield and yield related traits in the crop plant so as to identify the major traits of importance. A replicated field experiment was carried out using thirty eight potato genotypes selected at random from the germplasm collection of diverse origin. Observations were made on five characters. The highest phenotypic and genotypic coefficients of variability were observed for tuber yield on per plot, hectare and plant basis followed by specific gravity, number of stems per hill, number of tubers per plant and plant height. In general the phenotypic coefficients of variation were slight higher than genotypic coefficients of variation for most of the yield contributing characters which indicates the minor role of environment in the expression of these traits. Correlation coefficients revealed that the tuber yield per plant exhibited significant positive association with number of tubers per plant, average tuber weight, plant height, leaf area, plant spread, number of stems per hill, tuber yield per plot /hectare, specific gravity and dry matter. Path coefficient analysis revealed high direct positive effect on tuber yield via number of tubers per plant, tuber yield per plot, average tuber weight, plant height, leaf area and number of stems per hill revealing their importance in the improvement of this crop.

Keywords: Correlation, Solanum tuberosum, Yield

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*Corresponding Author

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