

CORRELATION AND PATH ANALYSES IN MAIZE (ZEA MAYS L.)

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ABSTRACT

In the study, the correlations between yield and the agronomic characteristics were determined as well as important factors contributing yield in maize grown under the main and the second crop conditions in the Meander Valley. Ten maize hybrids were used as materials in the simple correlation and path analyses. The experiments were arranged in the Randomized Complete Block Design with four replications. Yield, days to silking, days to tasseling, ear height, plant height, ear diameter, ear length, number of rows at ear, thousand kernel weight, single leaf area, number of leaves, leaf area index were measured on randomly selected ten plants.

At second crop maize, yield was positively correlated with plant height whereas it had negative and significant correlation with thousand kernel weight and ear diameter. Number of rows at ear was significantly and positively correlated with yield in both main and second crop maize. Path analysis revealed that days to silking and single leaf area had direct negative effects on grain yield while leaf area index, ear diameter and ear length with strong direct path values and ratios were the major factors contributing to yield. Negative and significant correlations between days to silking and yield, therewith negative and strong direct and indirect effects of days to silking on yield indicated that it might be a problem with late flowering hybrids due to high temperatures during their flowering times in the region.