



SDI EDITORIAL COMMENTS FORM

| EDITORIAL COMMENT'S on revised paper (if any) | Authors' response to editor's comments |
|--|--|
| <p>1. The manuscript Ms_JEAI_51033 titled "Genetic variances, heritability and traits association of early maturing maize hybrids under drought imposed at seedling and flowering stages" rightly aimed at looking for a possibility to select drought tolerant maize planting materials at the seedling stage by subjecting 66 simple hybrids to artificial drought and evaluation the subsequent grain yields.</p> <p>2. Low correlation between grain yield and all the irradiated seedlings traits contrasted with the expectations. However, authors desperately pursued with the search for inter-relationships among traits which resulted in a maximum correlation coefficient ($r = 0.30$) between "Number of dead leaves" at seedling stage and "Stay green" at flowering stage which is physiologically difficult to explain.</p> <p>3. It is strongly believed that estimates of direct and indirect effects of yield attributing characters on grain yield based on path analysis confirmed the fact that any data imputed in a computer program are automatically processed to produce related outputs. In the case of the current study inputs related to the drought-stressed seedling traits could be considered erroneous because it was already shown that they did not correlated with grain yield.</p> <p>4. The first conclusion was that the traits of seedlings growing under induced drought do not relate with subsequent grain yield and therefore should not be used as criteria in the selection of maize planting materials tolerant to drought.</p> <p>5. This main remark and more other comments in the revised manuscript call for a revision of the manuscript accordingly.</p> | <p>1. The study aimed at identifying reliable seedling drought traits for predicting improved grain yield under flowering drought conditions. Number of leaves and number of dead leaves under seedling drought stress were identified as reliable predictors of grain yield of early maize hybrids under field conditions.</p> <p>2. The highest value of r (0.30) was obtained between number of dead leaves at seedling stage and stay-green characteristics at flowering. This led to a general conclusion that seedling drought tolerance traits cannot be used as the main criteria for predicting grain yield in the hybrids under flowering drought conditions. This corroborates the findings of Meeks et al. [16] who reported that the seedling drought conditions were independent of drought responses at flowering on the field.</p> <p>3. Even though low values of correlation coefficients (r) were obtained between grain yield and seedling drought traits, r measures only linear relationship, which path analysis helped to decompose among the studied characters, thereby enhancing better interpretation of relationships as well as pattern of the effects of one trait on the other. Thus, the authors proceeded with path analysis to establish the exact minimal relationships in terms of cause and effect, identifying the direct, indirect and total (direct plus indirect) causal effects, as well as to remove any spurious effect that may be present [15].</p> <p>4. The first conclusion of this study was the narrow genetic base for seedling drought tolerance traits observed in the early-maturing maize germplasm studied. Number of leaves and number of dead leaves under seedling drought stress had the highest direct effects on grain yield under field conditions, as revealed by the path coefficient analysis, implying that these seedling traits are possible predictors of grain yield of early maize hybrids.</p> <p>5. Thank you for the comments. We found your comments extremely helpful and have revised the manuscript accordingly.</p> |