

Adaptation of Extra Early Maize 'Zea Mays L.' Varieties for Climate Change Mitigation in South Western Nigeria

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Abstract : In southwestern Nigeria, climate change has led to loss of at least two months of rainfall. Consequently, only one cycle of maize can now be grown because of the shorter duration of rainy season as against two cycles in the past. The Early and Extra-early maturing varieties of maize were originally developed for the semi-arid and arid zones of West and Central Africa where there are seasonal challenges of water threatening optimum performance of the traditional maize grown, which are commonly late in maturity (115 to 120 days). The early varieties of maize mature in 90 to 95 days; while the Extra-Early maize varieties reach physiological maturity in less than 90 days. It was broadly hypothesized that the extra early varieties of maize could mitigate the effects of climate change in southwestern Nigeria with higher levels of rainfall by reinstating the original two cycles of rain-fed maize crop. Trials were therefore carried out in southwestern Nigeria on the possibility of adapting the extra early maize to mitigate the effects of climate change. The trial was the Mother/Baby design. The mother trial involves the evaluation of extra-early varieties following ideal recommendations and closely supervised centrally at the University research farm and the Agricultural Development Programmes (ADPs). This requires farmers to observe and evaluate the technology and the management regime meant to precede the second stage of evaluation at several satellite farmers field managed by selected farmers. The Baby Trial is expected to provide a realistic assessment of the technology by farmers in their own environment. A stratified selection of thirty farmers for the Baby Trial ensured appropriate representation across the different categories of the farming population by age and gender. Data from the trials indicate that extra early maize can be grown in two cycles rain fed in south west Nigeria and a third and fourth cycle could be obtained with irrigation. However the long duration varieties outyielded the extra early maize in both the mother and baby trials. When harvested green, the extra early maize served as source of food between March and May when there was scarcity of food. This represents a major advantage. The study recommends that further work needs to be done to improve the yield of extra early maize to encourage farmers to adopt.

Keywords : adaptation, climate change, extra early, maize varieties, mitigation

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