

CHAPTER 6

CONCLUSION

The present study sought to understand the response to drought among maize varieties. The main findings of this study addressed gaps in knowledge of maize variety's adaptation to water stress at 50%FC and watering every 30 days condition. The maize varieties were found to be in 3 groups of drought tolerance. Most tolerant to water stress was Dragon 8 Rows and moderately tolerant were CM and 888 maize varieties while the most sensitive to water stress was Loeng Mongkul. When grown in the pots and pipes in greenhouse, all of growth indicators at vegetative stage as plant height, leaf area, shoot dry weight, root dry weight, total dry weight and NPK contents of all maize varieties with three water levels showed that, the effect of water levels on all parameters at 6 weeks after planting were depressed with increasing water stress. The effect was slight at 67%FC and most pronounced at 50%FC in this growth stage. When grown in the field and with plant growing to grain maturity, all of growth indicators such as day to flowering, plant height, biomass dry weight and grain yield of four maize varieties with two water levels showed that, all maize varieties were depressed when watering was done every 30 days compared with watering every 15 days.

However, the differential response of those four maize varieties differing in the degree of drought tolerance to water stress and nutrient uptake efficiency and grain yield provides a significant managerial option and selecting for drought tolerance could be very useful for maize breeding in Cambodia where drought is serious problem.