

ABSTRACT

This research was about Screening of Corn (*Zea mays* L.) for Aluminium (Al) Tolerance using Nutrient Solution. It has been done in Acclimatization Room, Tissue Culture Laboratory, Department of Agronomy, Faculty of Agriculture, Andalas University, Padang. It conducted on November until Desember 2011. Material was used corn inbred lines (Smrg M6-3, HP 6, Smrg B.33.1., Smrg B.2.5.2., Sukmaraga 99, BM 22, Gg 31, and Gg 11), 1167, 12 μ M nutrient solution, and as aluminium treatment was $\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$. This analysis also used ATI (Aluminium Tolerance Index) and RDW (Relative Dry Weight) plant. It was analysis is used to know tolerance level in corn inbred lines of Al stress. The result showed that inbred lines have genetic variability from Al stress. The variability of root length was large. Based on RDW analysis, only RRDW (Relative Root Dry Weight) analysis and RSDW (Relative Stem Dry Weight) analysis showed middle variabilities. Thus, Root/Shoot Ratio was also showed large variability. According to root length based on ATI (Aluminium Tolerance Index) analysis, it showed 6 corn inbred lines that have tolerance from Al stress. Based on RDW (Relative Dry Weight), there was only 1 line showed tolerance of Al based on RDW (Relative Dry Weight) analysis. On the other hand, all lines were tolerance of Al based on RSDW analysis. There were 22,00%-47,00% decreases of Root/Shoot Ratio of lines in 20 μ M Al stress than 0 μ M stress.

Key word: Screening, aluminium tolerance, corn inbred lines, nutrient solution.

