Density and functionality of stomata from seven *in vitro* cassava ecotypes (*Manihot esculenta* Crantz) and its relationship to the survival process in field conditions.

Juan David Hincapié González[1], María Camila Montenegro Valencia[1], Andrés Felipe Nieto Cárdenas[1], Roosevelt Humberto Escobar-Pérez[2]

[1] Student of Agricultural Engineering. National University of Colombia. Faculty of Agricultural Sciences.

[2] Associated Research. Agrobiodiversity Research Program, International Center for Tropical Agriculture (CIAT) & Invited teacher Universidad Nacional de Colombia, Faculty of Agricultural Sciences.

The *in vitro* culture techniques allows cleaning processes, massive propagation and plant genetic conservation. Cassava (*Manihot esculenta* Cranz) clones from different agro-ecological zones were selected and use to analyze their behavior on stomata (density and functionality) before, during and after hardening phase.

Cassava is the fourth most important crop in the tropics, due its high carbohydrates production crop, their tolerance to drought and infertile soils, and as an efficient crop that provides a source of food. The objective of the present study was to determine relationship among density and functionality of stomata on 7 cassava ecotypes produced in in vitro conditions, coming from the genebank of the International Center of Tropical Agriculture in 3 phase of acclimatization and its effect on survival process under field. It was observed highly significant differences between the density of stomata between the ecotypes (<0.001) and the environmental conditions evaluated (<0.001) where there was a greater presence of closed stomata at 15 days before transplantation, which allowed them better adaptation degree to field, avoiding high perspiration rate and water loss it on plants