

## SUMMARY

The research was carried out with the objective of determining the effect of two types of Bokashi fertilizer at different percentages used as substrates in the initial growth of the Jacaranda tree *mimosifolia*.

This research was made in the area belonging to the Ecological Park Loma de Guayabillas, located in Imbabura province, Ibarra canton, San Francisco parish at 2200 m altitude with a yearly average temperature of 15,6° C, the relative humidity of 84% and the precipitation during the dry months of 551,4 mm and in the rainy months of 997 mm.

The study factors were Types of Bokashi where B1 was made up by bovine manure, wheat straw, soil, pumice, ash, molasses, yeast and B2 which was made up by Guinean pig manure, wheat straw, soil, pumice, ash, molasses, yeast. The other factor was percentages of Bokashi with three mixture percentages: P1 with 10% of Bokashi and 90% soil, P2 with 20% bokashi and 80% of soil and P3 with 30% of bokashi and 70% of soil.

The total experimental area was 80,72 m<sup>2</sup>, four blocks were placed, each of them 11 m long and 1 m wide in which 28 experimental units were placed which were 1 m long and 1 m wide and they were separated from each other by 0.67 m and made up by 60 plants.

After establishing the experimental site, we started to prepare the bokashi taking into account the most important points which are a temperature of 50° C and the water content which must be kept in field capacity which gives the fermented

fertilizer after 15 days which served for the elaboration of the substrate which had soil and bokashi in different percentages. In the handling of the experimental units, a dripping irrigation system was used providing the plants with water during 40 minutes every two days.

The following variables were evaluated statistically; germination percentage, height of the plants, diameter of the plants and number of leaves. Once concluded the work, the treatment T6 was determined which was made up by bakashi based on Guinean pig manure at 30% and 70% of soil. With this support, the germination processes were carried out in a shorter time and obtained a higher physiological development in height, diameter and number of leaves. Finally, it was detected that the treatment T3 made up by bokashi based on bovine manure with 30% and 70% of soil presented the lowest physiological development. In the financial analysis, it was found out that the use of the substrate based on bokashi at 20% and 80% of soil was the one with the lowest financial cost.