EVALUATION OF VETIVER ROOT BEHAVIOR ACCORDING TO AGE

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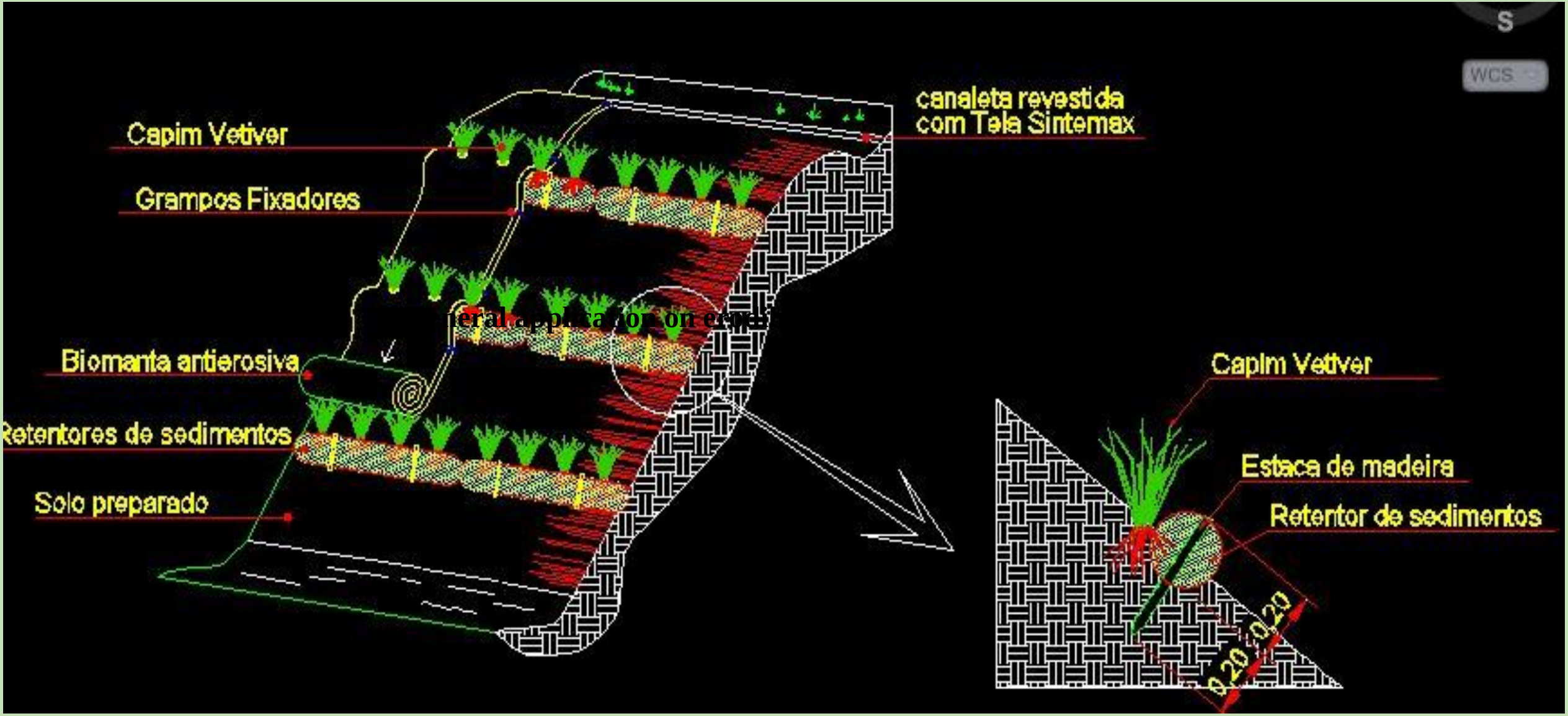
INTRODUCTION

Following successful applications of the Vetiver System Technology (VST) by Deflor Bioengenharia for various erosion control and revegetation of degraded areas, associated with infrastructure protection and mining. VST applications have been well accepted in Brazil.

This paper studies the development of the root system, the most important component of land stabilization of steep batters of infrastructures (railways, roads, dam wall etc.), mining and industrial waste dumps

This research follows the root system growth for at least two years and evaluates its behavior and development at the different ages.

General application on erodible slope



PROJECT OBJECTIVES

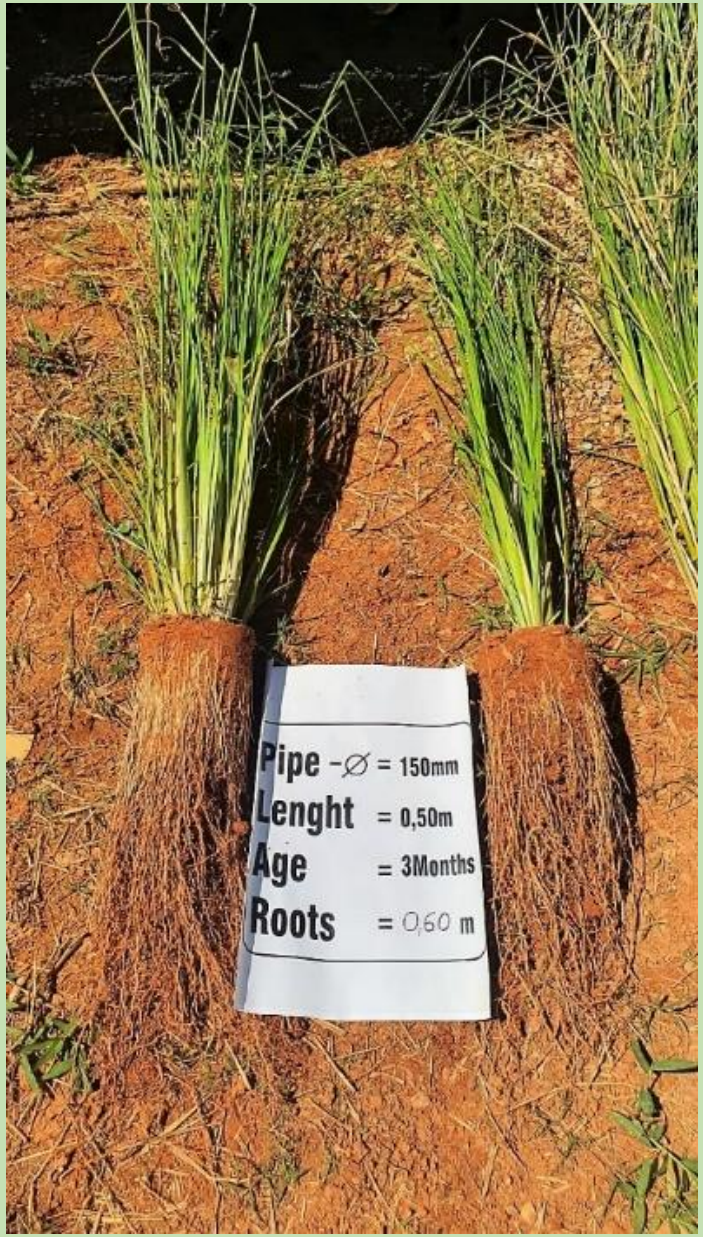
To determine the development of vetiver root development under tropical climate in Brazil. A series of eight PVC tube lengths (0.5, 1.0, 1.5, 2.0, 2.5, 3.0 3.5, and 4.0m) and 150mm in diameter was used. Watering was carried out daily from the top.

Three month old
0.60m long

Six month old
1.10m

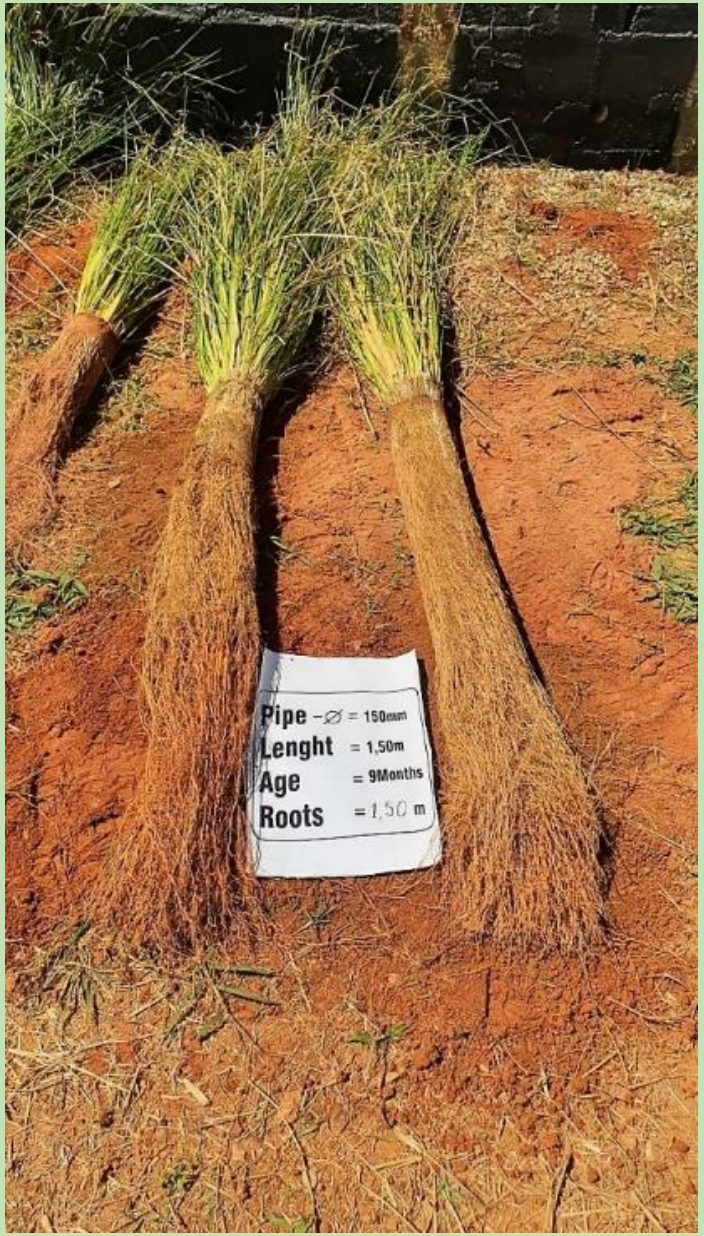
Nine month old
1.50m

Three month old



Six month old

Nine month old




3 Months
6 Months
9 Months

Root in 50cm long tube at 3 month old

Three month old 50cm long

Six month old 1.10m long

Nine month old 1.50m

CONCLUSION

Due to the exposure to very hot tropical sunlight, the tubes were very hot, particularly the long tubes resulting in the death of roots deeper than 1.5m, after nine month of growth.

Although the experiment could not achieve its original plan of two years, it has shown that the roots reached 1.5 m in length after nine months, indicating that a nine month old vetiver would be able to improve slope stability in most applications

THANK YOU