

## **ABSTRACT**

Now a days, due to increase in pollution the soil properties are decreased day by day this cause damages in structures like subgrade of road, pavements, foundation and construction sites. The scarcity and rising cost of cement lead to research in soil stabilization by potential sugarcane fiber which is cheaper and available in market and ecofriendly. It has serious disposable problems. There are different types of soil present in the earth such as sandy, clay, silt, loam, saline. The present investigation is carried for the red soil that which covers the large part of India so we are using red soil it is the type of the soil that develops in warm, temperature, moist climate under deciduous or mixed forest.

In our project, we are using mechanical method such as CBR test for to improve the soil material strength which will have all the desired engineering properties. In this project, lime 10% is used because it has good binding property and sugar cane fiber 0.5%, 1.0% and 1.5 %used as the admixtures. Since sugar cane fiber has the stiffer bonding phase to generate in the composite structure. Various geotechnical lab test such as plasticity index ,optimum moisture content test specific gravity of soil and California bearing ring test (CBR) to estimate the strength of the soils.

**Key words:** Red soil, sugarcane fiber, lime, CBR test machine.