

## ABSTRACT

A survey of the existing village level grain storage structures and their constructional materials locally available in the Vidarbha region of Maharashtra State was carried out to reveal the abundant availability and extensive use of an artificial stabilised soil (white soil) and Nirgundi (Vitex negundo Linn) shrub stick. Since no scientific data were available, mineralogical, chemical, geotechnical and strength characteristics of white soil and physical and mechanical characteristics of NS sticks were experimentally determined in order to identify the white soil as well as to utilise these locally available materials for the construction of rural grain storage structures.

NS-White soil shallow bin structures of about 100 kg capacity each with varying thickness were designed and fabricated. Paddy variety (Shali-vahan IET-7590) was stored up to 180 days for performance evaluation of these structures.

The storage system was found to be suitable for the humid region where the experiment was carried out and hence it was concluded that these structures would be effective and appropriate for the Vidarbha region of Maharashtra State where the climatic condition is comparatively hot and dry.

Key words :

Geotechnical, Mineralogical, Nirgundi shrub stick, Stabilised soil, Storage structures, Rural, White soil.