

ชื่อเรื่อง

**Root Characteristics and Root Distribution Studies of Some Vetiver Grass  
(*Vetiveria Zizanioides* L. Nash and *Vetiveria Nemoralis* A. Camus) in  
Thailand by Using P-32 Tracer Technique**

ชื่อผู้วิจัย

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**Abstract**

The Root performances at different growth stages of some local vetiver grass was conducted at different experimental sites within the Royal Doitung project area. Soil injection technique with P-32 at various distances and depths of a vetiver plant hill was used. Radioactivity of P-32 was monitored from the leaves at growth stages to evaluate rooting characteristics and pattern of root system.

Under field trial for studying root characteristics at Doitung Vetiver Grass Research and Development Centre, 2 vetiver grasses originated from Surat Thane ( *Vetiveria zizanioides* L. Nash) and Pimai ( *Vetiveria nomoralis* A. Camus) were studied. It was observed that at 1 and 2½ month after planing of a Slip of vetiver grass, roots of both vetiver plants were found at 150 and 250 cm depths respectively. However, more root density was found at the depth 30-100 cm. At 9.6 months growth stage of both vetiver plants, roots were found at soil depth 400 cm and the highest root density was at the depth of 150, 250 and 350 cm respectively. It was also found the roots of both vetiver grasses at the depth of 500 cm when observation was made at 25 months old.

Vetiver grass, Viangchai from Chiangrai was grown at side slope for the purpose of soil erosion control. Root systems was not extensive due to unadequate nutrients which was shown by the handed growth of vetiver plants. However, roots penetrating were as deep as 400 cm when the plants were 17.6 months old. The results of root density were vague.

Vetiver grass from tissue culture from Surat Thanee and Hua Ka Kaeng were used to study root distribution at field trial. It can be concluded that on the average root development of vetiver grass studies of Surat Thanee would distribute horizontally from the plant hill 60 cm (soil depth 80-90 cm) at the age of 6 months. At 8-10 months old the distribution was between 80-140 cm (30-120 cm depth) respectively. The root could spread in between 70-100 cm apart from the testing at the depth of 150 cm. It could be observed that at 180 cm depth, the root could distribute to the distant of 80 cm away from the testing hill. For Hua Ka Kaeng the root distribution was not as good as that at Surat Thanee. The root could spread uniformly between 40-60 cm on average away from the testing grass (6-10 months old).