

ชื่อเรื่อง

Varietal Selection for High Root Biomass and Oil Yield in Vetiver

ชื่อผู้วิจัย

R.K. Lal, J.R. Sharma and H.O. Mishra

ชื่อหน่วยงาน

Central Institute of Medicinal & Aromatic Plants, INDIA

ปีที่ดำเนินการ

ปีที่พิมพ์รายงาน

Abstract

Soil-erosion is a serious cause of ecological disturbances and environmental degradation. Its impact is more distressing in resource-poor countries which can hardly afford mechanical control of soil-enuciation. Vetiver –a perennial grass with its fibrous roots offers an inexpensive yet effective and ecofriendly tool to combat soil erosion. Axiomatically, the larger its root volume, better is the capacity to conserve soil and soil-moisture both. Besides, larger root volume will also ensure higher (dried) root yield which has multiple economic uses including those related to aroma and essential oil, the world renowned Khus oil. With this in view, we screened 45 indigenous germplasm collections of vetiver for fresh and dry root biomass, oil content and oil yield. Sixteen clones/lines were found to be promising. They were evaluated in initial station trial, where the best five strains (BDP-1, BMH-1, MBR-5, BMH-3 and MBR-6) were shortlisted and elevated to bench scale trial (BST). The elite strain BDP-1 had the largest root-volume (dry root yield = 97.0 q/ha) followed by BMH-1 (56.2 q/ha), BMH-3 (33.3 q/ha) and MBR-5 (28.7 q/ha), all registering 12 to 3.6 times more root yield than the commercial checks in BST. Fortunately, the oil content in their roots was also high, hence economically most viable. Thus BDP-1 with its largest root volume can serve as excellent soil-binder besides being the most productive oil strain of vetiver.