

Vetiver an industrially viable annual crop for its priced essential oil

Cultivation of vetiver as an annual crop for its essential oil to realize high return and industrial sustainability

H S Chauhan, H P Singh, V K S Tomar, A K Singh, H N Singh, Awadh Bihari, R K Lal and R P Bansal

Central Institute of Medicinal and Aromatic Plants, Lucknow-226015

Abstract

With the developing economic scenario in the country, the demand of vetiver oil has increased manifold. It imparts unique fragrance to be used in flavor and fragrance industry. Its complex oil cannot be easily substituted and synthesized/ reconstituted. North Indian type vetiver oil has better perfumery value than South Indian type and hence fetches a higher price. With the depleting wild resources, oil production in North India has declined very fast. The oil production of vetiver has come down to few hundred kilos, whereas in the past it was in tones. In order to meet the requirement, planned cultivation of vetiver becomes desirable. Traditionally the vetiver slips were being planted during monsoon and harvested in next winter after 18-24 months. This practice had inherent problem of long gestation period due to which marginal farmers were not inclined to adopt the cultivation. Further low oil content/ yield, return after a long duration etc were the other limiting factors in adoption of vetiver cultivation. In order to make the vetiver cultivation attractive to the growers and to assure regular supply of essential oil to the industry, CSIR-CIMAP developed high yielding (30-35 kg oil/ha) short duration (10-12 month) variety (CIM-Vridhi) with its improved cropping and cultural practices. Annual vetiver cultivation technology offers a better livelihood strategy to farmers due to relatively low input costs, flexible labour requirements, higher profitability, variable income sources, and more negotiating power at marketing stage than other agricultural crops. . Vetiver-*Mentha arvensis* combinations has been found to give better economic returns than any other sole or combination crops.

The results of the experiment and farmers field data indicated that cultivation of vetiver in irrigated condition can yield 15-20 q of root biomass/ha annually. On distillation it will yield 18-25 kg oil /ha and net profit Rs 1.0-1.25 lakh/ha. *Mentha arvensis* as intercrop during February –June with vetiver will produce 125-150 kg oil /ha at the cost of 5-8% loss in oil yield. One can realize the annual profit of Rs1.25-1.50 lakh/ha.

Keywords : Vetiver cultivation, Vetiver as annual crop, Vetiver cropping system