

THE VETIVER GRASS POT: PRODUCTION AND USE

**Varunee Thiramongkol and Banyong
Baebprasert**

Department of Science Service

Bangkok, Thailand

Introduction

His Majesty King Bhumibol Adulyadej put forward the idea that water hyacinth should be used for the restoration of the environment. In order to try out the idea, the Royal Chitralada Projects and the Department of Science Service cooperated in two fields, one of which was the production of the water hyacinth pot as of 1989.

Then, Dr. Riksh Sayamananda, Deputy Director of the Doi Tung Development Project Coordination Center of HRH the Late Princess Mother, asked for assistance from the Department of Science Service to work on the vetiver grass pot. Thus, in 1995, the project “Study of the vetiver grass pot used on the plantation at Doi Tung, Chiang Rai province, to celebrate the fiftieth anniversary of His Majesty King Bhumibol Adulyadej’s accession to the throne” was launched, to last until 2001. Two government agencies are involved in this venture – the Department of Science Service and the Thailand Institute of Scientific and Technological Research, together with a private agency, the Doi Tung Development Project (the coordination center of the project of HRH the Late Princess Mother), jointly works in this project. The Department of Science Service has provided a budget of Baht 38 323 080 over the six-year period. The senior author, who is a senior expert of the Department of Science Service, is the director of the project.

The vetiver grass pot is a pot used especially at the hardening time for planting any kind of plant. It was developed to reduce the use of plastic bags and of fired clay pots, to help preserve the environment.

The Production of a Vetiver Grass Pot

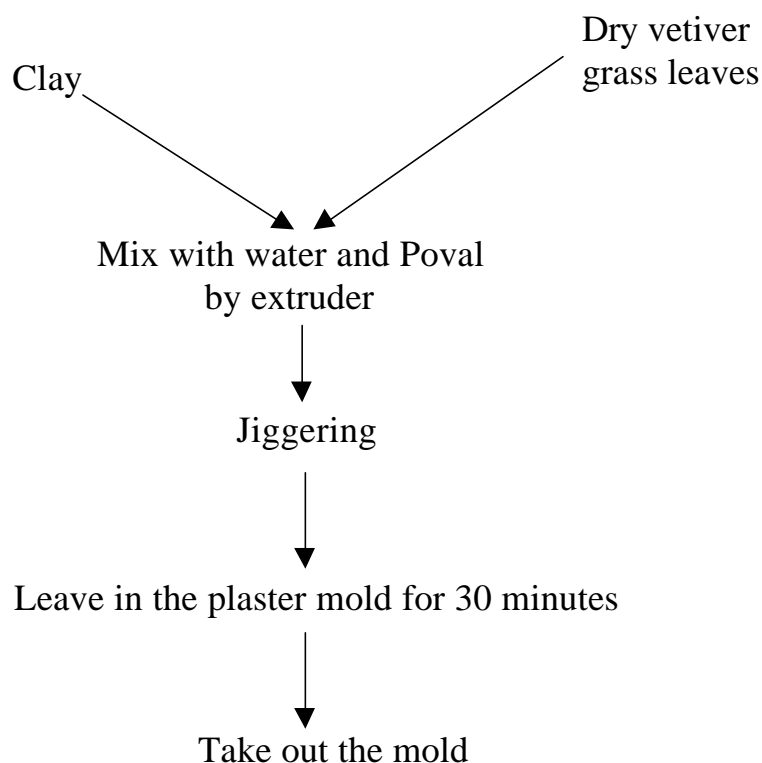
The vetiver grass pot is made of clay, dry vetiver grass leaves and a binder, polyvinyl alcohol (‘Poval’), which is safe for the soil and for water: after hardening and planting in the pot, the potted plant is put directly into the ground without removing the pot.

The range of particle size distribution of clay should be as follows:

$2 \mu < \sim 40-45\%$

$5 \mu > \sim 25-30\%$

The production process of the vetiver grass pot is as follows:



The most appropriate proportion of dry vetiver grass leaves to clay is 1:8 by weight and the suitable amount of Poval is 0.8 %.

The procedure for producing the vetiver grass pot is the same as for the production of the ceramic clay pot. One can produce any size of pot for the plantation of any kind of plant, ranging from 2” to 10-12” in diameter and from 1 ½” to 12” in height or more, depending on the design of the jigger machine.

Using the Vetiver Grass Pot

The vetiver grass pot possesses the unique property of allowing you to plant any kind of plant, from vegetables to trees, without the trouble of removing the pot before plantation.

Plantation of Vetiver Grass in the Vetiver Grass Pot

Mr. Sujint Thophangthiem, who is responsible for the cultivation and reforestation of vetiver grass at the Doi Tung plantation, transplanted vetiver grass into vetiver grass pots. After letting them harden for a while, he replanted the potted grass across a slope of the plantation. The grass grew perfectly in the research area.

Plantation of Teak Wood in the Vetiver Grass Pot

Dr. Uthai Charanasri produced a tissue culture of teak trees (*Tectona grandis*) and after hardening the fledgling stumps for two months, transplanted them into vetiver grass pots. After two months, he removed the bottom vetiver grass plate and pruned the root coils off and planted the stumps directly in the stump production bed. In this way one will get perfect stumps of teak trees to be planted in any place suitable for growing teakwood.

Plantation of Forest Trees and Fruit Trees

Mr. Samart Sumanochitraporn worked on the plantation of *Dipterocarpus alatus*, *Dipterocarpus turbinatus*, *Phyllanthus emblica*, *Cassia alata*, *Alstonia scholaris*, *Zanthoxylum limonella*, *Cassia siamea*, *Litchi chinensis* and *Dimocarpus longan* into vetiver grass pots. The result was quite satisfactory.

Plantation of Ornamental Plants

Mr. Teeraphan Toterakun, who is responsible for planting ornamental plants in vetiver grass pots, planted *Petunia*, *Ageratum*, *Dianthus*, anemone, *Arctotis*, *Brachycome*, *Felicia*, *Gazania*, *Kniphofia*, *Laurentia*, *Lobelia*, pansy, snapdragon, *Thalictrum* and others. These ornamental plants, which possess strong roots, grew well in the vetiver grass pots.

Ms. Boonyawadee Chirawut planted *Curcuma alismatifolia*, *Zinnia elegans*, *Catharanthus roseus*, and *Celosia plumosa* in vetiver grass pots at the Chitralada Palace. Again, the result was quite successful.

Conclusion

The vetiver grass pot is a tool used for planting any kind of plant, ranging from vegetables to forest trees, without harmful effects on the environment. It is also one of the best ways to recycle vetiver grass, as it is made of dried vetiver grass. It is easy to produce; farmers can make vetiver grass pots by themselves and use them in their farms or they can make them for sale. The rate of production of pots with 6 inches in diameter is 30 pots per hour, for 4" diameter, 60 pots/hr, for 3 1/2" diameter, 40 pots/hr and for 2 1/2" diameter, 80 pots/hr.

The advantage of the vetiver grass pot over the plastic bag and the fired clay pot is that the former disintegrates into the soil, but the latter two do not. Thus, the vetiver grass pot is good to use for the preservation of the environment.