Pet-Tree Project Report

Pet-Tree is designed as a vertical leveled, suitable to drop watering, alternative organic plantation growing system with the aim of encouraging the use of waste 5 lt PET bottles. Easy assembly and use is aimed while maximum efficiency in a small area, less water use and decreased investment price are achieved.

The plan is that within the system; flower pots made out of half PET bottles will form an alternative mutli-leveled geometrical setup. Via this system, decreasing the amount of excessive plastic bottle use that is threatening the future of nature; and raising awareness in the society is aimed. The other plastic parts making up the main support body will be made out of recycled plastic materials. The protective membrane is produced by the extrusion and welding of CA (cellulose asetate). The main support body is produced from 1 mm thick stainless steel.

In a period of which water resources are decreasing day by day, the seasons are changing and disaster stories about future are predicted, the application of efficient water irrigation economically is crucial. While planting organic products, growth kit PetTree, which aims minimum resource use and maximum efficiency, not only allows the farmer to use the resources vigorously, but also gives the opportunity of an inhome user to plant his/her very own plants in the most practical way.

With the proposed design, effective use of the water resources, cut back on the manpower, timesaving, growing more plants in the same horizontal area, and by all these increasing efficiency and the reduction of carbondioxide oscillation via the use of waste PET bottles is planned.

PetTree, with its' aims towards social responsibilities, innovative irrigation cycle, vertical pot arrangement on many levels, and the use of waste bottles; is constructed with high visual quality.

When the plastic bottles are structured withing the defined system, they contribute to nature rather than being harmful. As individual organic product plantation is supported, protection of both natures' and peoples' health is aimed. The system is easy to assemble, plantation and growth processes are simple and the evergrowing problem of water resource use is taken down to an economical level while bringing a new perspective to ordinary business problems such as keeping high maintenance.

The target consumer of this product is both individual users who wants to grow just enough for their own daily vegetable use and also rural society aiming to achieve high production rates with limited economy. As for the industrial areas, growing higher numbers of plants in the same horizontal area and allowing the growth of vegetable types with small trunks are the foreseen opportunities. For producers wanting to grow higher number of vegetables in large areas, this is an alternative which will increase the amount of production even more.

The most important advantage of this product is the fact that with the vertical arrangement of the flower pots, more production in a smaller area is achieved. In comparison to the regular vegetable greenhouses, PetTree reaches an increase of 175 % in the number of products produced within the same horizontal area. And with the efficient use of resources, it offers an economic and competent opportunity to the ecofriendly user.

The assembly process of the product is very simple, basic and standard pieces are used during its' production. Once the product is setup and the seeds are placed, the use and maintenance of the system are easy and the product maintains its' continuity. PetTree achieves this continuity through the cycle of water within the system, leading to the usage of less amounts of water, timesaving and cut back on the necessary man power, therefore increasing production while decreasing the cost. Both during individual use and in multiple use, high production rate is expected with less energy use.

The innovative irrigation system of the product eliminates the loss of water and the water within the system is cycled, leading to the effective use of the necessary water. Here is how the system works: The water in the water tank above the product is spread to the flower pots via dripping and once all the pots have been watered the excess water is collected at the PET bottles at the bottom floor. During this process, as the water in the PET bottles is poured into the water tank which also collects rain, with the membrane wrapped around the system, the loss of water due to vaporization is eliminated. Another use of the membrane is having protection agains birds and other potentially harmful living creatures.

Another innovative side of the product is related to the arrangement of the pots. As an alternative to the regular vegetable plantation in pots, the system situates the pots vertically; therefore more pots fit into the same horizontal area.

PET-TREE, before anything else, is a system design. It is structured so that waste PET related materials that harm the environment are reused in the most efficient way, the farming areas that are getting smaller day by day are used in the utmost efficiency, and regarding the use of water, social awareness is raised. It is attention grabbing as an 'innovative' alternative solution.