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HYDROPONICS – THE PATHWAY FROM SOIL TO WATER

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HYDROPONICS- THE PATHWAY FROM SOIL TO WATER

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INTRODUCTION

The greed of humanity has led to this world. The world which is more advanced than ever before with all the comforts of life. But along with all the convenience and modernization, it has its own dark side. Greed has led to more innovation than ever before, but this greedy nature of humanity when exceeds a limit will create an environment of chaos.

Our desire to produce more and more in the field of agriculture, especially when the soil of the world is degrading has led to the innovation of hydroponics. Currently, the hydroponics system, one of the most advanced agriculture systems, has major benefits only. We fear that the greedy nature of humanity will flip the coin and make hydroponics a necessary evil. The fate that happened with the innovation of inorganic agriculture, which when invented led to a world with the highest crop production which was never seen before but our greedy nature flipped the coin and it became a necessary evil.

Hydroponics is the practice of growing plants in water which is filled with nutrient solution. The word Hydroponics is derived from the root words 'Hydro' meaning 'Water' and 'Ponos' meaning 'labor', which means "Working Water".

During intensive research on plant nutrients, it was revealed that plants need nutrients for their growth and not soil. Soil merely acts as a medium for the plants. Nutrients present in soil act as the main source of growth and development in plants. From this information, it was concluded that, if instead of soil medium other alternative media with all the nutrients present in it are used, plants can grow in that medium as well. In this way, the innovation of hydroponics was done.

Every good thing comes to an end. But it need not be true. Only and only if our steps are conscious in nature. The sole purpose of hydroponics is not just to produce more food. Its main purpose is to reduce the consumption of water by recycling it. Other benefits are included. Such as lesser transmission of diseases and pests, complete elimination of weeds, and use of space effectively and cost-effective. Nevertheless, if we convert the sole purpose of hydroponics

into producing more food, it may fulfill our desire/greed at first but later on, it will see the same fate as that of tillage.

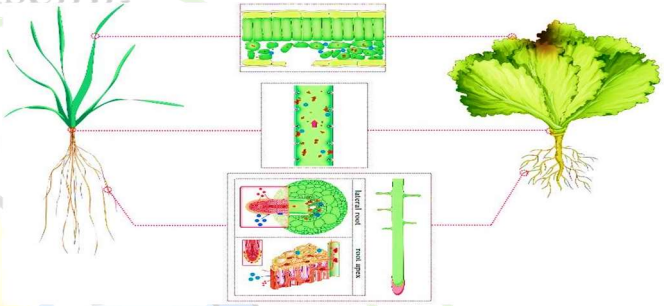
Almost most of our innovation and invention which was the result of greed has now become a necessary evil. Such as Tillage practices, use of machinery in the field, spraying of agrochemicals, etc.

FLAWS OF HYDROPONICS

The major disadvantages of hydroponics include an increase in the consumption of electricity. On the one hand, it reduces the use of water and also recycles it but on the other hand, it increases the demand for electricity and is vulnerable to power outages. Micro-organisms that are water-based can grow steadily in such an environment, as it becomes most suitable for them. Moreover, water-borne diseases can easily spread in the hydroponic system.

The ultimate result of greed is chaos. With the ever-increasing demand for food, the use of the hydroponic system will also increase. As the base model of the hydroponics system is entirely based on the use of plastic, it will increase the problem of plastic pollution instead of mitigating it. A hydroponic system will become such a system, that it solves one problem but creates ten more problems for the world to tackle.

Not only the problem of electricity and plastic, but the utmost important problem a hydroponic system can cause and has started causing, is the problem of microplastic. According to a report published by Lianzhen Li, Associate Professor, Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, microplastics such as polystyrene (PS) (0.2 micrometers) and Polymethylmethacrylate (PMMA) (2.0 micrometers) particles can be taken up by plants such as wheat and lettuce. With microplastics entering the environment and food chain, it will have many harmful effects on the health of the human body. As the entire model of hydroponic is based on plastic as its raw material (PVC pipes), plants grown under the hydroponics system automatically becomes the most susceptible source for the microplastics (PS & PMMA) to enter the food chain.



CONCLUSION

The desire for more is a good thing. Our desire is the only thing that allows us to become more creative and innovative. With the use of desire, we humans have achieved things that were not imaginable in the past. Nevertheless, when this desire turns into greed, every good thing that came out of it becomes a necessary evil. One such innovation is Hydroponics System. It is one of the most advanced and creative innovations in the field of agriculture, which has immense potential to solve the major problems of the farm sector. Such as soil degradation, space for cultivation, deforestation, excessive use of water, etc. but, if caution is not taken up before expanding hydroponics into a large-scale business, it will also become a necessary evil. Instead of solving the major problem, it also has the potential to create another major problem for the world in the farm sector which is microplastics in the food chain. Therefore, caution must be taken before Hydroponics become a necessary evil.