The NFT Hydroponic Growing System

In the last 50 years, many hydroponic systems have been developed in order to make crop cultivation easier, cheaper, faster and denser. Amongst the systems that have been developed, one of the hydroponic systems which has caught the most attention and is used more frequently is the so called NFT (Nutrient Film Technique) system.
The system's operation principles are quiet simple. A PVC (or or other polymer) rain gutter is placed on an aluminum frame with a certain inclination, plants are placed in small containers introduced inside the gutter and a nutrient solution is sprayed at the most elevated side of the gutter. The spraying forms a thin film on the gutter's bottom and flows towards the other end due to the slope.
The fact that the NFT system allows most of the plant's root system to remain outside the nutrient solution is the main reason for it's success. Throughout a lot of research, it has been found that plants just need to be "barely" in contact with the nutrient solution. Plant's seem to greatly benefit from their roots abosrbing oxygen from open air and taking just the little amount of necessary nutrients they need by a small contact with nutrient solutions.

The NFT system is great for crop cultivation and is one of the most efficient systems for the growing of crops such as basil, lettuce, spinach and cabbage. However it does have some disadvantages such as gutter length limitations due to nutrient and temperature changes (usually gutters are never more than 15 feet long), of course they also have the strong disadvantage of much higher costs (fue to the gutters being expensive) and lower planting densities (due to the spaces needed between gutters to allow personel). Nonetheless, many companies growing NFT systems have been able to make "foldable" gutters which allow automatic recollection of lettuce, transplanting and sterilization.

In conclusion, one could say that the NFT system is one of the best hydroponc growing systems that have been developed due to the fact that it allows greater oxygen and nutrient absortion. In fact, the hydroponic nutrient film technique is one of the most used systems for lettuce cultivation.
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