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Drip Irrigation System

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Drip irrigation is a low-pressure, low-volume lawn and garden watering system that uses a drip, spray, or stream to supply water to home landscapes. A drip irrigation system keeps roots wet but not drenched while using far less water than other watering methods. Drip irrigation is a sort of micro-irrigation system that allows water to drip slowly to the roots of plants from above the soil surface or buried below the surface, potentially saving water and nutrients. The idea is to get water into the root zone quickly and reduce evaporation. Drip irrigation systems use a network of valves, pipes, tubing, and emitters to transfer water. A drip irrigation system can be more efficient than other types of irrigation systems, such as surface irrigation or sprinkler irrigation, depending on how effectively it is designed, installed, maintained, and operated.

Benefits of drip irrigation are, Fertilizer and nutrient loss is minimized due to a localized application and reduced leaching, Water application efficiency is high if managed correctly, Field levelling is not necessary, Fields with irregular shapes are easily accommodated, Recycled non-potable water can be safely used, Moisture within the root zone can be maintained at field capacity, Soil type plays a less important role in the frequency of irrigation, Soil erosion is lessened, Weed growth is lessened, Water distribution is highly uniform, controlled by the output of each nozzle etc.

In the same way there are some risks like, Labour cost is less than other irrigation methods, Variation in supply can be regulated by regulating the valves and drippers, Fertigation can easily be included with minimal waste of fertilizers, Foliage remains dry, reducing the risk of disease, Usually operated at lower pressure than other types of pressurized irrigation, reducing energy costs, Initial cost can be more than overhead systems.

The sun can affect the tubes used for drip irrigation, shortening their lifespan. (See Polymer degradation); the risks of degrading plastic affecting the soil content and food crops. With many types of plastic, when the sun degrades the plastic, causing it to become brittle, the estrogenic chemicals (that is, chemicals replicating female hormones) which would cause the plastic to retain flexibility have been released into the surrounding environment. If the water is not properly filtered and the equipment not properly maintained, it can result in clogging or bio clogging. For subsurface drip the irrigator cannot see the water that is applied. This may lead to the farmer either applying too much water (low efficiency) or an insufficient amount of water, this is particularly common for those with less experience with drip irrigation.

Drip irrigation might be unsatisfactory if herbicides or top dressed fertilizers need sprinkler irrigation for activation. Drip tape causes extra cleanup costs after harvest. Users need to plan for drip tape winding, disposal, recycling or reuse. Farms, business greenhouses, and household gardens all employ drip irrigation. Coconuts, containerized landscape trees, grapes, bananas, ber, eggplant, citrus, strawberries, sugarcane, cotton, maize, and tomatoes are among the crops and trees that benefit from drip irrigation in locations where water is scarce. Drip irrigation kits for home gardens are increasingly popular for homeowners and consist of a timer, hose, and emitter. Hoses that are 4 mm (0.16 in) in diameter are used to irrigate flower pots. Drip irrigation system is an economical and very efficient system of irrigation of fruit crops, vegetables, and raw crops etc. Drip irrigated crops use less water compared to overhead irrigated crops. Drip irrigation increase yield.

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