The first drip system designed for greywater

Greywater diversion devices, which are the vast majority of greywater systems used in Australia, have long solved the diversion part but as to how to apply the water onto a garden- that has been a different story.

Dripperline is an integrated dripper inserted inside a polyethylene tube on manufacture at pre-determined flow rates and spacings. Netafim pioneered this invention 40 plus years ago in Israel and are now the largest drip irrigation manufacturer in the world with a subsidiary in Melbourne for the Australian and New Zealand market. The technology has long been used in agriculture and other wastewater applications, at times dealing with very dirty water qualities.

The greywater irrigation systems that have been used to date include open ended hoses which have to be shifted constantly or slotted drainage pipe/ pipe with holes drilled into it which doesn't give even distribution. As a result these garden systems will not provide even distribution and can cause ponding and run-off which are not considered acceptable for health and environmental reasons.

Greywater diversion devices collect some or all greywater from the house and can either divert the water to the irrigation system or back into the sewer. It is important to ensure when the irrigation area is at water holding capacity, that the greywater is then diverted to the sewer such as in the event of rainfall.

These systems have basic filtration to ensure that the irrigation system doesn't block downstream of the device. The filters are typically a sponge type material as standard screen or disc filters which often block very quickly. The filter size and material used will determine the frequency that they need cleaning which can typically vary from 1 week to 3 months. Up until now drip irrigation has been too small a passage for greywater to pass through especially when considering lint and hair from the greywater.

Netafim has developed a truly unique product that has a passage way of no less than 2.7mm which is huge in dripper design (typically drippers have passageways of around 0.5mm). This large passageway ensures the particles of lint and hair can pass through the Bioline dripperline without blocking the dripper.

The area required for a domestic system has been outlined in new Greywater Design and Installation for Single Household Handbook (Soon to be release by Standards Australia and developed by Green Plumbers Australia; see page 6) which will become the Australian benchmark for greywater use. It simply calculates the volume of greywater the household creates, dividing by the evaporation rate for that area which will give an area required. This number then needs to be cross referenced with soil type infiltration rates to ensure a given soil can handle that volume.

Once the area is determined the amount of dripperline still needs to be calculated. It is recommended that the spacing between the dripperline laterals should be 0.4m. A simple method to calculate total meters required can be made by total area divided by 0.4 will give total meters of dripperline. The irriGREY kit comes in 100m sizes will all associated fittings and it simply a matter of determining how many kits are needed. The dripperline is laid out on top of the soil under the mulch layer in garden beds and is not recommended to be buried.

This system is reliable, simple to maintain and will achieve maximum irrigation uniformity over your garden to best utilise greywater. ●

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