

Team 2 – Joan, Caden, Jaryd, Mohamed

Drip Irrigation System – Proposed Solution

Use polyethylene tubing for the main line and for the sub-main lines of the drip irrigation system. The polyethylene is durable yet flexible, and can be connected to the sub main lines using a T-connector. The polyethylene tubing can easily have holes poked into it with a hole punch or sharp tool, and can be cleaned out by running high pressure water through it. It can also be buried or left out in the sun. We will be using about 162.5 feet of tubing for the sub-main lines and main lines. At the end of each sub main line, there will be a cap to prevent water from flowing out of the system. The last sub main line will be connected to the main line using an L-connector.

1 main line = 6 m

8 sub mainlines = 5.5 m each

8 caps for end of sub mainlines

http://www.lowes.com/cd_Drip+Irrigation+System+Buying+Guide_1302790260



http://www.lowes.com/pd_208028-13598-052020P_0_?productId=3136429&Ntt=polyethylene+tubing&pl=1¤tURL=%3FNtt%3Dpolyethylene%2Btubing&facetInfo= - polyethylene 1/2" tubing 200ft - \$15



http://www.lowes.com/pd_194546-61002-AIT12_0_?productId=50030690&Ntt=polyethylene+fitting&pl=1¤tURL=%3FNtt%3Dpolyethylene%2Bfitting&facetInfo= - polyethylene Tee fitting to connect main line to sub mainlines. \$0.99

- 7 Tee connectors = \$7



http://www.lowes.com/pd_194589-61002-AIME12_0_?productId=50030692&Ntt=polyethylene+fitting&pl=1¤tURL=%3FNtt%3Dpolyethylene%2Bfitting&facetInfo= = - 1 L connector for the end of the main line - \$.63



http://www.lowes.com/pd_306427-74985-67462_0_?productId=3133821&Ntt=polyethylene+cap&pl=1¤tURL=%3FNtt%3Dpolyethylene%2Bcap&facetInfo = -8 end caps at \$1.48 each = \$11.84



1. Appropriate technology – This is a pretty low tech system, all you need to do is run water through the tubes.
2. Available materials – The only necessary materials are polyethylene for the tubing and connector, which is common at most hardware stores and can be shipped easily.
3. Affordable cost - about \$35 for the tubing, connectors, and caps, which is about 70% of our original budget of \$50.
4. Ease of maintenance – The tubing can be buried or left out in the sun, and can be cleaned easily by flushing high pressure water through the system.
5. Safety – This system has no dangerous components to it and is very safe to manufacture.