

TEAM 3

Drip Irrigation System

Camille Jessica Cunanan

Components

1. Polyethylene tubing
2. Fittings
 - a. Elbow (for right angle turns)
 - b. Tee (for splitting the tubing in different directions)
 - c. End cap (for closing the end line)
3. Emitters

Expenses (All Prices from Home Depot)

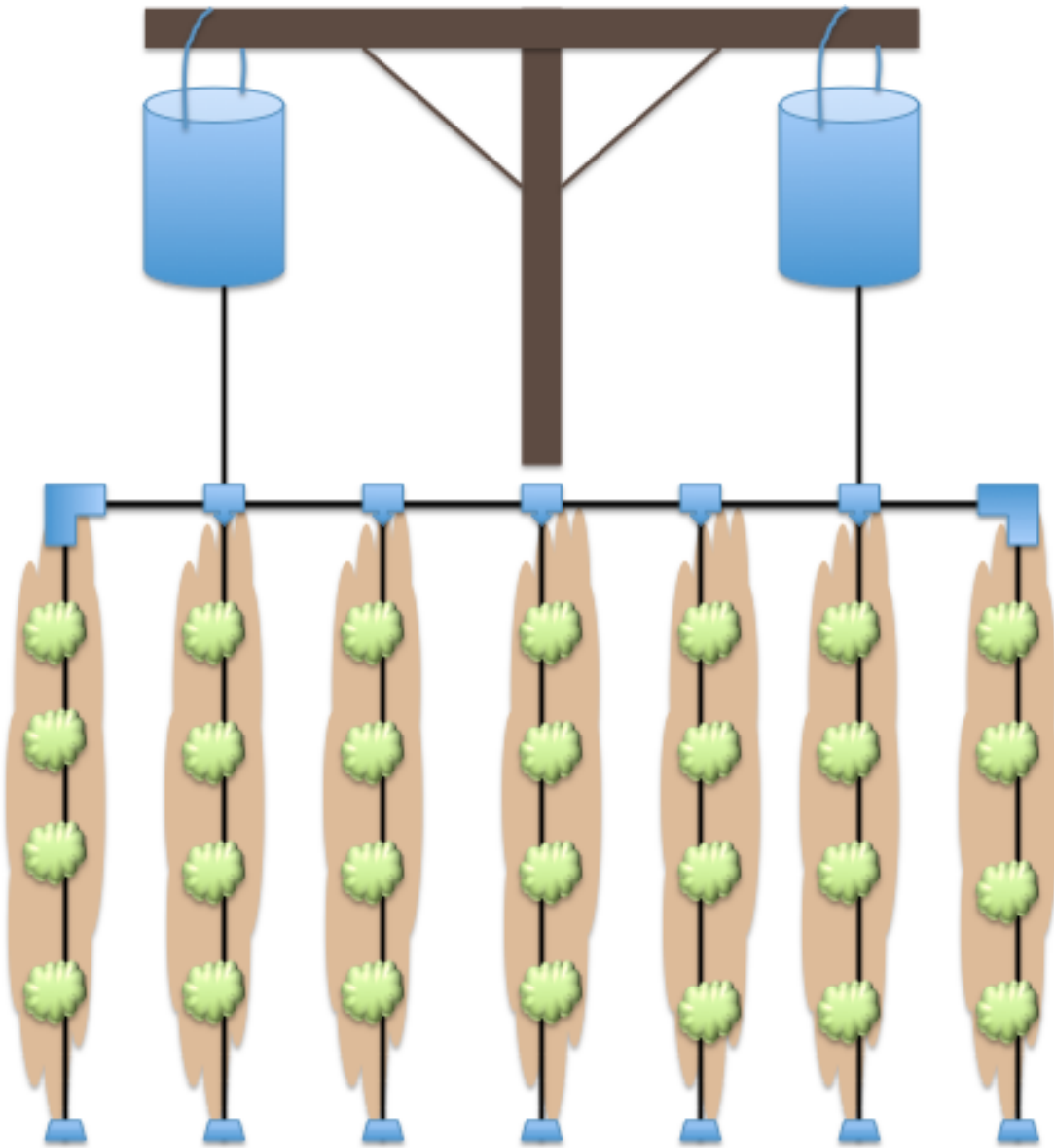
1. Polyethylene tubing
 - a. DIG Corp 1/4 in. X 500 ft. Poly Micro Drip Tubing... \$19.98
2. Fittings
 - a. Elbow
 - i. Toro Blue Stripe 1/4 in. Elbow (15-pack)... \$2.17
 - b. Tee
 - i. Toro Blue Stripe Drip 1/4 in. Tees (15-pack)... \$2.57
 - c. End Cap
 - i. Orbit 1/4 in. Barb End Plug (25-pack)... \$3.48
3. Emitters
 - a. DIG Corp 2 GPH Button Dripper (25-pack)... \$6.49

TOTAL: \$35.69



Design Description

Two jugs of water will be hung on a T-shaped post, enabling the water to gravitate downward through the polyethylene tubes. The tubes will be attached through fittings and the water will be distributed to the plants through a button dripper.



Drip Irrigation System

Jacob Namey

Components:

1. Tubing – PVC piping
2. Components:
 - Lateral lines
 - Fittings
 - Valves
 - End Caps
3. Emitters

Expenses: bought from Lowes

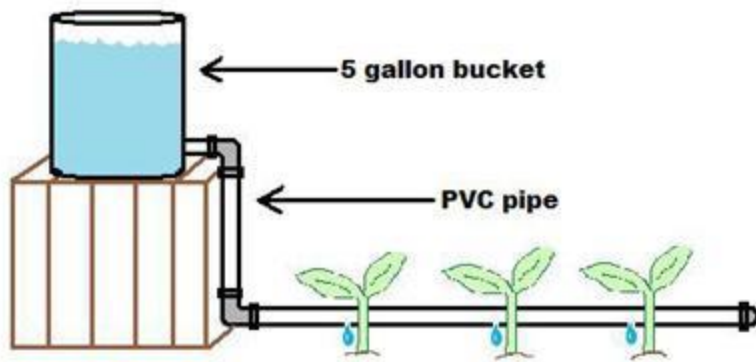
1. Tubing - JM eagle 3/4 in. x 10 ft. PVC Conduit x 10 - $\$1.88 \times 10 = \18.80
2. Components:
3. Elbow: Schedule 40 PVC Reducer Tee 3/4" Slip x 1/2" FNPT x 3/4" Slip x 10 - $\$0.64 \times 10 = \6.40
4. Tee: Mueller Streamline 3/4 in. PVC 90-Degree S x S Elbows (25-Pack) - \$4.29
5. End Cap: 448-007 3/4 in. FPT PVC Pipe Cap x 10 - $\$0.56 \times 10 = \5.60
6. Emitter: DIG Corp 0-10 GPH Adjustable Multi-Stream Dripper (25-Pack) - \$7.99



Total expenses: \$43.08

Description: Put one tank with water on a sturdy base with one pvc piping coming out from downward angle so the water will come down naturally due to gravity. The tubes will separate by using elbows and tees to distribute the water in different water, and the water will be distributed by an adjustable multi stream dripper.

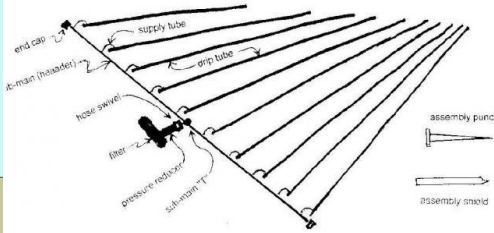
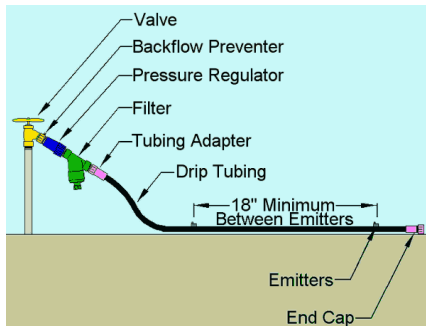
Drip Irrigation Method



<http://sewa-ania.blogspot.com/>

Drip Irrigation System

Seok Young Kim



Need at least 23m main line

Need at least 44m sub-main line

- The 1/2" and the 3/4" serves as the main line or a branch line, into which the, drippers, micro sprinklers or 1/4" connectors with micro tubing are linked.
(30.48m 1/2" : \$10.99)
- The 1/4" micro tubing, referred to as distribution tubing, serves as an individual feeder line to deliver water to each drip emitters or micro sprinklers.
(30.48m 1/4" X 2 : \$11.98)
- Backflow Preventor(Backflow Preventer 3/4" FHT x 3/4" MPT : \$3.09)
- Pressure Regulator(3/4" FHT Basic Pressure Regulator, 10 PSI : \$5.59)
- Fitting(DIG 1/4"Tee : \$1.92 (16 packs)
(1/2" .700 OD Compression Elbow : 2.76(4 packs)
- Emitters(Adjustable Drip Emitter for Spike 360 degree : \$0.59 ~ \$0.65)
- End Cab(Figure "8" Hose End for 3/4" Drip Tubing: \$1.80(4 packs)

Total: \$38.13 (Not including the price of emitters)

THINGS TO TAKE CARE

- life expectancy of the materials is 10 to 12 years.
- One problem is controlling flow rate and high water pressure. With this system, manual ball valves are used to control flow rate and assist in reducing pressure.

We need alternative methods to reduce the cost.

Drip Irrigation System Design

By: Ahmad Alhathboor

In my drip irrigation system, I looked for an alternative to the very popular trend of using polyethylene and instead used vinyl, which might be a cheaper; therefore, more efficient route than the polyethylene route.

Materials required:

1. 3x 100', 1/4" Vinyl Brown Micro Tubing
2. 7x DIG 1/4" Barbed Tee
3. 1x 1/4" Barbed Elbow

The Vinyl Micro Tubing comes at 7.89\$ per 100'. So assuming we need a bit less than 300' per irrigation system. Total, this comes out to 23.67\$ per irrigation system on tubing.



100', 1/4" Vinyl Brown Micro Tubing

For 7 out of the 8 sublines, we can use the DIG 1/4" Barbed Tees to connect them with the main line. These tees come out to 0.12\$ per piece, so that totals to 0.84\$. For the last subline, we can use a 1/4" Barbed Elbow to connect it with the main line which cost 0.13\$ a piece. Both the Barbed Tees and the Barbed Elbows can be sold in bulk for cheaper, so their might be a few bucks saved here and their.



DIG 1/4" Barbed Tee



1/4" Barbed Elbow

So these are the final calculations per drip irrigation system:

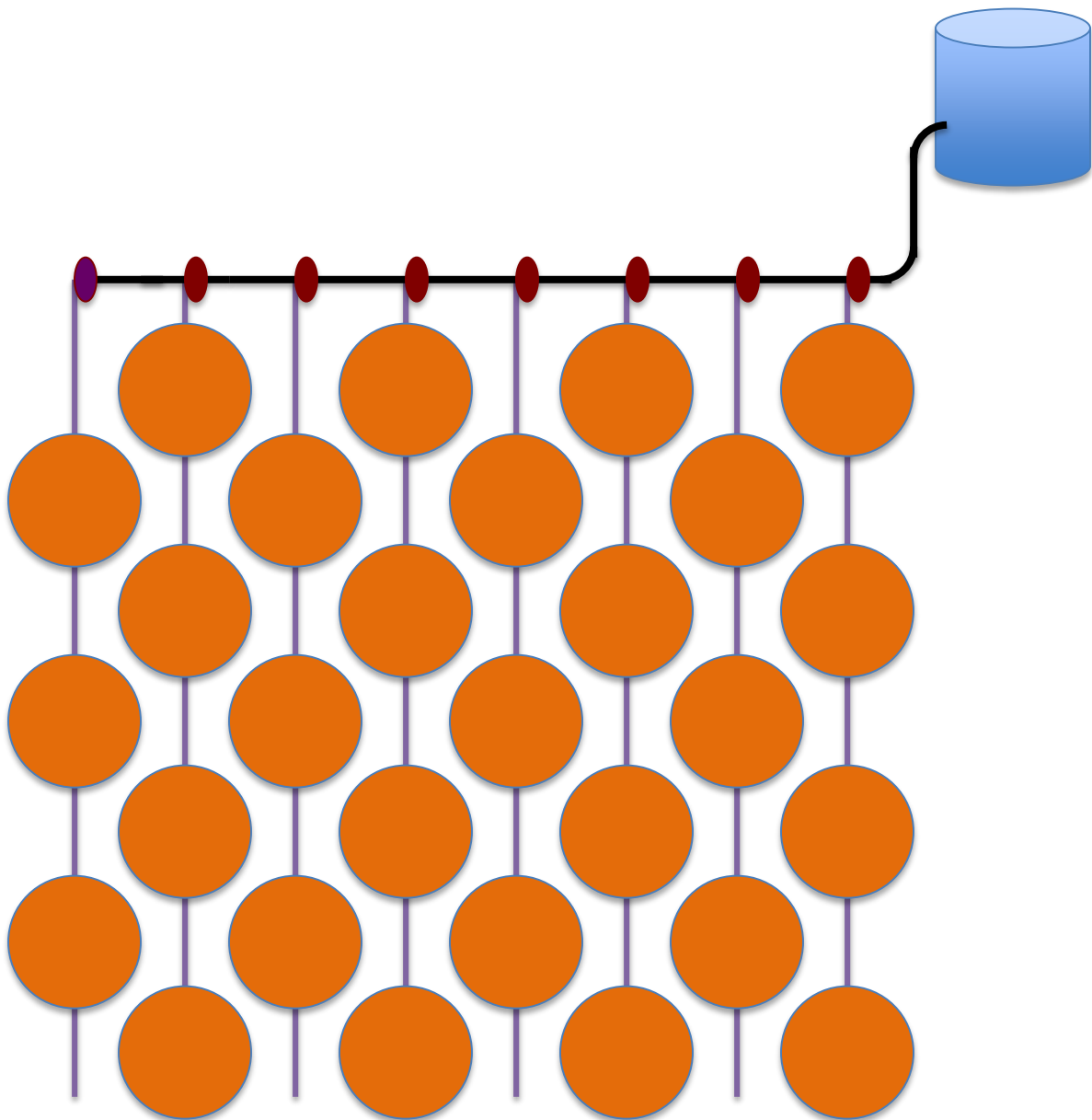
1. 3x 100', 1/4" Vinyl Brown Micro Tubing = 23.67\$

2. 7x DIG 1/4" Barbed Tee = 0.84\$

3. 1/4" Barbed Elbow = 0.13\$

Total: = 24.64\$

Final Sketch:



[http://www.lowes.com/cd Drip+Irrigation+System+Buying+Guide 1302790260](http://www.lowes.com/cd_Drip+Irrigation+System+Buying+Guide_1302790260)

www.homedepot.com

[http://www.dripirrigation.com/drip irrigation categories/85](http://www.dripirrigation.com/drip_irrigation_categories/85)

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