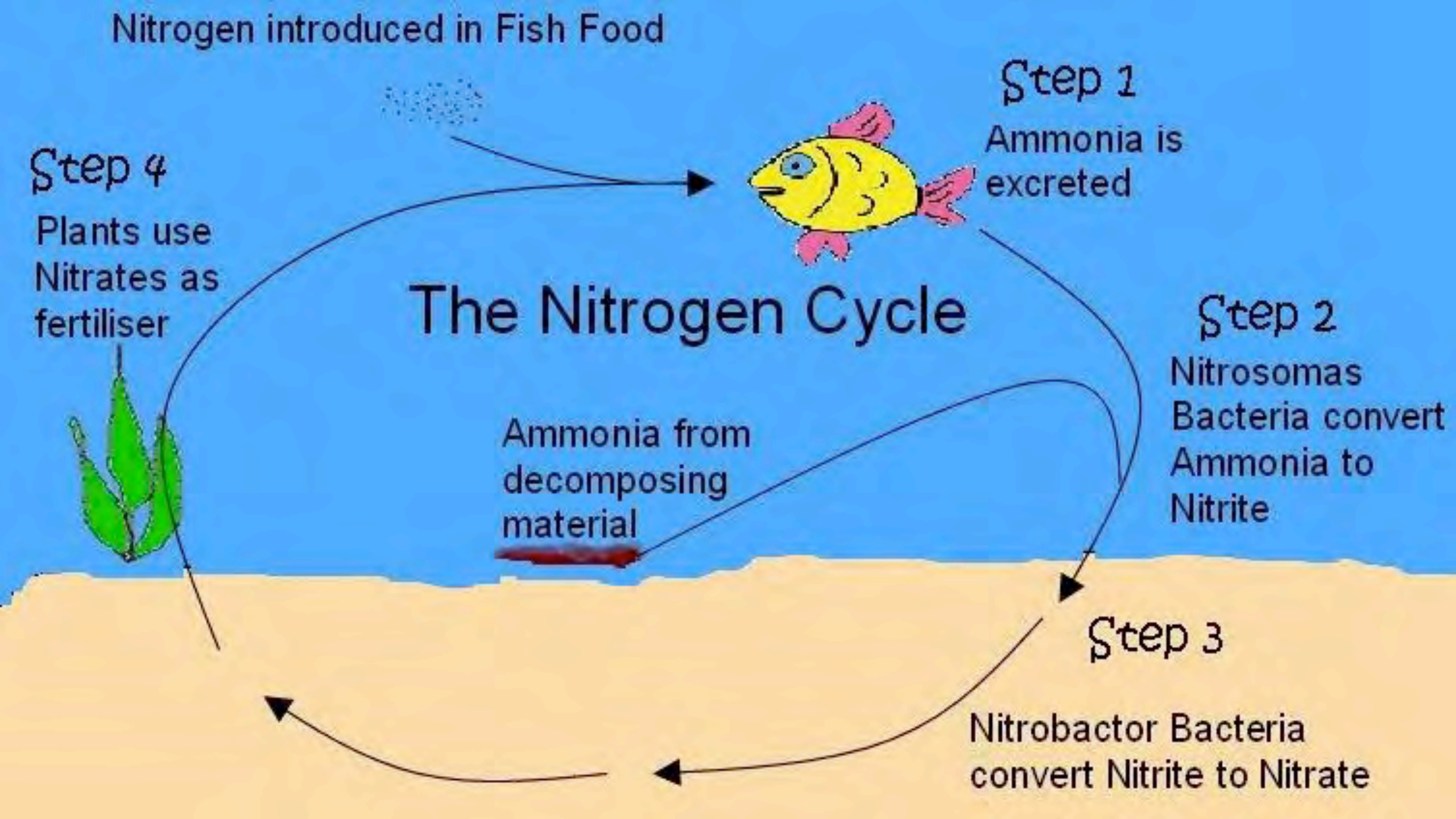
Using Aquaponics for Incredible Growth


12164-B ASTM F512
My set up


IBC Tote

Tote cut to form grow bed and tank

HOW THINGS WORK


Nitrogen introduced in Fish Food
Step 1
Ammonia is excreted
Step 4
Plants use Nitrates as fertiliser
The Nitrogen Cycle
Step 2
Nitrosomas Bacteria convert Ammonia to Nitrite
Ammonia from decomposing material
Step 3
Nitrobactor Bacteria convert Nitrite to Nitrate

A simple explanation

- **Nitrosomas** bacteria converts the ammonia to **Nitrites**
- **Nanobacter** converts the Nitrites to **Nitrates**

Which the plants can use


New set up


Currant tank

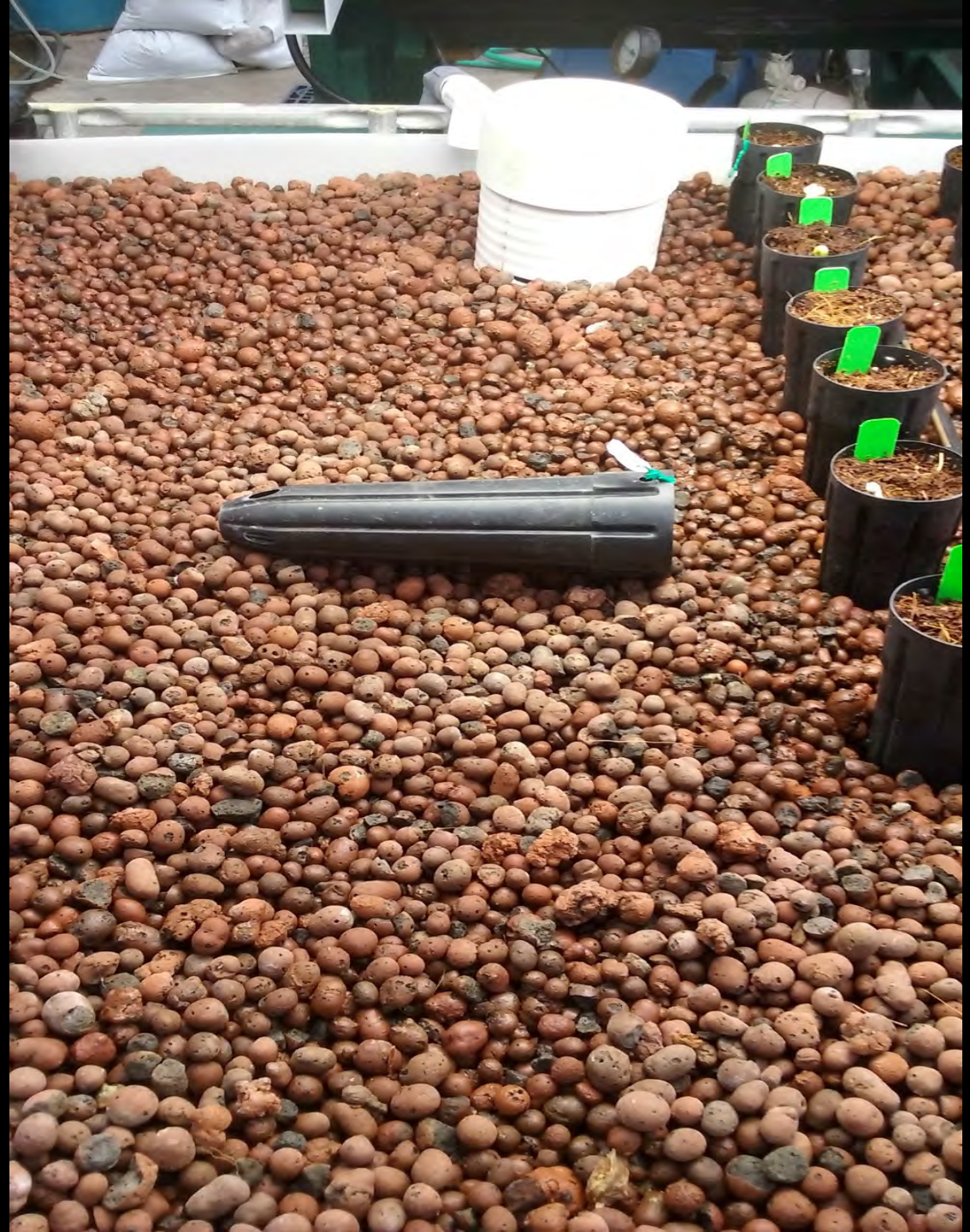

What I use:
Birds nest coir
Fine coir
Hydtroton


Birds nest coir


Hydroton pellets

Grow tube
2 X 7 inches

Grow bed of
Hydroton
pellets




Grow light: 400 watts

Air pump


Bell syphon is used to drain the grow bed


11-10-2014
Note, roots at the of bottom of the tube


These roots will grow out the bottom.
It will be time to remove the seedling and pot it.

Many seedlings have branched


STANLEY

One way to start seeds


Moving seeds into grow pot
I start seeds in the grow tubes


Not all seedpods produce equal plants


Hand watering
new seedlings

New grow bed
and
hand watering
tube

Bell syphon is in
the back


3/10/16
Seedling progression
Union-Tribune
SHORTLIST SURFACES FOR COURT VACANCY


KASICH CAPTU
3/18/16


3/21/16


IN CALIF.
POLLING
Sanders backers
set to rally around
3/28/16

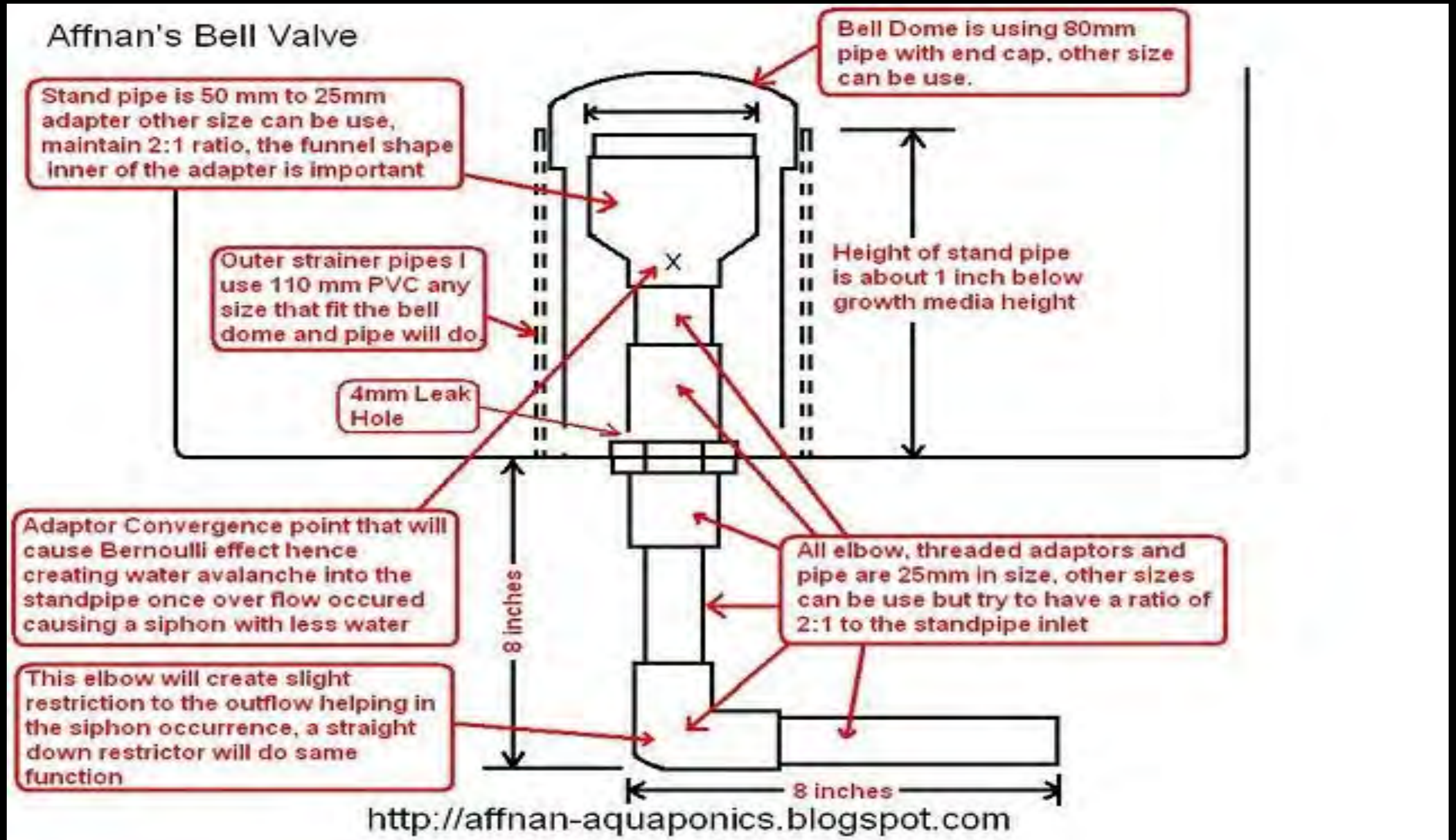

4/6/16


4/13/16


Seedlings 6 inches high


4/13/16
The San Diego
Union-Tribune
OFFICIALS: MORE
MONEY NEEDED
TO COMBAT ZIKA

Affnan's Bell Valve



http://affnan-aquaponics.blogspot.com


Parts of a bell syphon

Bell syphon water inlet

Barrel system

COST

- For a ready made system with all of the goodies around
  - $ 2800.00

- If you get all of the pieces and assemble it yourself
  $75.00 to $800.00

GROW TUBES SUPPLIER

- STUEWE & SONS, INC
- 2290 SE KIGER ISLAND DRIVE
- CORVALLIS, OR 97333
- 1-800-553-5331 OR 541-757-7798
- FAX: 541-754-6617
- EMAIL: INFO@STUEWE.COM
- WEB SITE CATALOG: WWW.STUEWE.COM

These people are very helpful and pleasant. They will help you.

Second grow bed for Adenium and vegetables.

PPM = Parts Per Million

One ppm if a nutrient, Nitrogen, means that the solution contains 1 part nitrogen in 1,000,000 parts of water by weight. Here is an easy formula to determine PPM of a solution.

Ounces of fertilizer product / gallons of water in solution X grade of fertilizer X 75 = ppm

It works like this: **20-20-20** contains 20% N. To fine the ppm of nitrogen in a solution containing 1 oz. of 20-20-20 in 100 gallons of water: equation is.

1(oz. of product) / 100 (gallons of water) X 20 (grade of fertilizer) X 75 = 15 ppm

This means; 1 ounce of 20-20-20 in 100 gallons of water has 15 parts per million of nitrogen in solution.

To determine the number of ounces required to make up a ***200 ppm*** solution of nitrogen with a 20-20-20 fertilizer in 100 gallons of solution, use this formula:

ppm in solution X gallons of water, *divided by*, % grade of fertilizer, *divided by*. 75 = ounces of fertilizer.

200 X 100 ÷ 20 ÷ 75 = 13.3

To calculate the amount for a concentrated stock solution, the (gallons of water) ^{200}number in the equation is the volume of water in the tank, multiplied by the injector ratio. sing the above example, if the tank is 100 gallons and the injector ratio is 1:100 then use this formula:

200 X (100 X 100) ÷ 20 ÷75 = 1333.33 oz.

1333.33 oz. ÷ 16 oz. per lb. =88.3 lbs.


10 weeks old with Earth worm


Coffee plant